DOCUMENT RESUME

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SPONS AGENCY	Office of Education (DHEW), Washington, D.C.; Ohio State Board of Education, Columbus.
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ABSTRACT

The objectives of this program are to develop, field test, and evaluate a K-12 curriculum containing learner objectives of the following types: (1) increased student knowledge of probable effects resulting from the use, misuse, and abuse of drug substances including alcohol and nicotine; (2) increased student understanding of human behavior; and (3) increased positive growth in student developmental attitudes in areas related to the use, misuse, and abuse of drug substances including alcohol and nicotine. During the project period, 15 elementary and secondary teachers from Ohio school systems were trained, and worked with curriculum and content specialists in the development of the curriculum. Subjects were 1,932 students drawn from all grade levels in five Ohio school districts. Student populations within each school system included urban, inner city, peripheral, suburban, and rural. Treatment and control groups were established. Results indicate the project activities effectively improved participant behaviors and attitudes toward drugs. (Author)

ED 092821

E.S.E.A. Title III

PROJECT TERMINATION REPORT

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OCT 23 1973
TITLE III, ESEA

DEVELOPING CURRICULUM FOR EDUCATION OF YOUTH IN MEETING MODERN PROBLEMS

CG

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D R U G A B U S E

July 1, 1969 to June 29, 1973

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DAYTON CITY SCHOOLS
348 WEST FIRST STREET
DAYTON, OHIO 45402

JOHN B. MAXWELL, SUPERINTENDENT

ED 008 928

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OHIO DEPARTMENT OF EDUCATION

ESEA TITLE III
781 Northwest Boulevard
Columbus, Ohio 43212

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BASIC DATA FORM 2

Due Date: August 1 or ninety (90) days following grant termination, whichever occurs first

SECTION A – GENERAL INFORMATION

PROJECT TITLE: Developing Curricula for the Education of Youth in Meeting Modern Problems		PROJECT NUMBER: 45-69-082-4
Applicant Agency: Dayton City Schools	Address (complete): 348 West First Street, Dayton, Ohio 45402; County: Montgomery	
Name of Project Director: William J. Parrish	Address (complete): Board of Education, 348 West First Street, Dayton, Ohio 45402	Telephone Number: 461-3850; Area Code: 513
Superintendent: John B. Maxwell	Address (complete): Board of Education, 348 West First Street, Dayton, Ohio 45402	Telephone Number: 461-3850; Area Code: 513
Signature of Superintendent: John B. Maxwell		Date: September 27, 1973

SECTION B – SCHOOL POPULATION AND PARTICIPATION DATA

Enrollment Data on or Near the Previous October 1		Number of Children: Pre-Kinder-Garten	Kinder-Garten	Grades 1-6	Grades 7-12	Adults	Staff Receiving Inservice Training	Total
1. Total Enrollment of School District(s) Served by Title III Project	Public		3562	22,999	23,558			50,119
	Nonpublic	0	0	4818	1780			6598
2. Total Enrollment of Schools Served by Title III Project	Public	NOT APP.						
	Nonpublic							
3. Persons Directly Participating in the Title III Project	Public	NOT APP.						
	Nonpublic							

4. Direct and Indirect Participation of Students, Teachers and Counselors

Type of School	Direct Participation: Teachers: Elementary	Teachers: Secondary	Counselors: Elementary	Counselors: Secondary	Indirect Participation: Teachers: Elementary	Teachers: Secondary	Counselors: Elementary	Counselors: Secondary	Students: Elementary	Students: Secondary
Public	NOT APPLICABLE									
Nonpublic										

BD 2-1

A-20 * High School Only

SECTION C – ETHNIC, TARGET POPULATION, AND RURAL/URBAN PARTICIPATION

1. PARTICIPANTS REPORTED IN B-3, PREKINDERGARTEN THROUGH ADULT BY ETHNIC GROUPS	Negro American	Indian American	Oriental American	Spanish surnamed American (Mexican, Puerto Rican, Cuban descent)	Caucasian	Other
Number of Participants	N.A.					
Percent of Participants						

2. PARTICIPANTS REPORTED IN B-3, PREKINDERGARTEN THROUGH ADULT BY TARGET POPULATION	Migrants	Disadvantaged	Handicapped	Early Childhood Education	Other–Specify	
Number of Participants	N.A.					

3. PARTICIPANTS REPORTED IN B-3, PREKINDERGARTEN THROUGH ADULT BY RURAL/URBAN DISTRIBUTION	Rural		Standard Metropolitan Area		Other Urban	
	Farm	Nonfarm	Low Socioeconomic Area	Other	Low Socioeconomic Area	Other
Percent of Total Number Served	N.A.					

SECTION D – PERSONNEL FOR ADMINISTRATION AND IMPLEMENTATION OF PROJECT

Type of Paid Personnel	Project Staff Paid with Title III Funds				Project Staff Not Paid with Title III Funds and Volunteers			
	Full Time	Part Time		Full Time Equivalent	Full Time	Part Time		Full Time Equivalent
		Half or greater	Less than half			Half or greater	Less than half	
1. Administration/Supervision			2	20%				
2. Teachers								
a. prekindergarten								
b. kindergarten								
c. grades 1-6			1	18%				
d. grades 7-12								
e. other								
3. Subject matter specialists (Artists, scientists, etc. other than regular teachers)			4	60%				
4. Technicians (audiovisual, etc.)								
5. Pupil personnel workers (Guidance, counseling, testing, attendance and school social work)								
6. Health services personnel (Medical, dental, psychiatric)								
7. Researchers and evaluators			3	101%				
8. Planners and developers			8	362%				
9. Disseminators (writers, public relation personnel, etc.)								
10. Other professionals								
11. Paraprofessionals (education aides, etc.)								
12. Other nonprofessionals (clerical, pupil transportation food services, etc.)			4	31%				

SECTION E – PERSONS SERVED BY TITLE III PROJECT AND ESTIMATED COST									COMPLETE ONLY IF PROJECT HAS TERMINATED
MAJOR PROGRAMS OR SERVICES	Number of pupils by grade level (public and nonpublic schools)				Number of nonpublic school pupils	Number of adults (exclude staff receiving training and project staff members)	Number of staff who received inservice training	Total estimated cost	Indicate per cent of each program or service that is being continued without Federal Funds
	Pre-Kindergarten	Kindergarten	Grades 1-6	Grades 7-12					
A. Direct educative services (Teaching and aiding teaching)									
1. Basic skills									
a. Remedial									
1) English language arts (except reading)									
2) Reading									
3) Cultural									
4) Social sciences/social studies									
5) Natural science and mathematics	Developing Curricula for the Education of Youth in Meeting Modern								100% implementation
6) Other – specify								Problems	
b. Nonremedial (regular) & enrichment									
1) English language arts (except reading)									
2) Reading									
3) Cultural									
(a) Foreign languages (classical & modern)									
(b) Arts (music, theater, etc.)									
4) Social sciences/ social studies									
5) Natural sciences and mathematics									
6) Other – specify									
B. Special education									
1. Handicapped									
2. Gifted									
C. Supporting services									
1. General administration									
a. Information dissemination									
b. Other									
2. Instructional administration									
a. School wide direction and management									

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SECTION E – PERSONS SERVED BY TITLE III PROJECT AND ESTIMATED COST (Continued)									COMPLETE ONLY IF PROJECT HAS TERMINATED
MAJOR PROGRAMS OR SERVICES	Number of pupils by grade level (public and nonpublic schools)				Number of nonpublic School pupils	Number of adults (exclude staff receiving training and project staff members)	Number of staff who received inservice training	Total estimated cost	Indicate per cent of each program or service that is being continued without Federal Funds
	Pre-Kindergarten	Kindergarten	Grades 1-6	Grades 7-12					
b. System wide direction and management									
c. Instructional supervision									
3. Program development									
a. Research & development									
b. Planning									
c. Evaluation									
d. Demonstration									
4. Personnel development									
5. School library resources and other instructional material (except equipment)									
a. Audiovisual materials									
b. Books, periodicals and other printed materials (except textbooks)									
6. School library, audiovisual & other media personnel									
7. Pupil services									
a. Guidance and counseling									
b. Testing									
c. School psychological services									
d. Attendance & school social work									
e. Health services									
f. Pupil transportation									
8. Capital outlay									
a. Sites and buildings									
b. Equipment									
1) Audiovisual									
2) Other instructional equipment									
3) Noninstructional equipment									
D. Improving classroom instruction: flexible scheduling, individual instruction, etc.									
E. Community service or participation									

SECTION F - REPLICATION AND INTEREST

According to your best information, list

1. School districts which have replicated to some degree components of the ESEA Title III project reported on this form.

NAME	LOCATION
Toledo Public Schools	Toledo, Ohio
Akron Public Schools	Akron, Ohio
Cincinnati Public Schools	Cincinnati, Ohio
Columbus Public Schools	Columbus, Ohio

2. the number of school districts which have visited the ESEA Title III project reported on this form.

   a. Ohio 8

   b. Other states 1

3. the number of requests (correspondence or telephone) received for information and/or materials relating to the ESEA Title III project reported on this form 35.

A. SUMMARY

The objectives of Dayton's ESEA Title III project were to devlop, field test, and evaluate a kindergarten thru senior high school curriculum containing learner objectives of the following types:

a. increase of student knowledge of probable effects resulting from the use, misuse, and abuse of drug substances including alcohol and nicotine
b. increase in student understanding of human behavior
c. increase in student developemntal attitudes in areas related to the use, misuse, and abuse of drug substances including alcohol and nicotine.

During the project period, fifteen elementary and secondary teachers from Ohio School systems were trained and worked with curriculum and content specialists in the development of the curriculum. 1,932 students drawn from all grade levels in the five Ohio school districts were served by the project as treatment groups. Student populations served within each school system were diverse to include urban, inner city, peripheral, suburban, and rural.

In all experimental settings, treatment and control groups were established. Standardized instruments were developed by project personnel and were subjected to standard item construction techniques. Treatment groups were exposed to the curriculum; control groups were not. All groups were pre-and post-tested with the same instruments administered by cooperating teachers under standard classroom conditions. Instruments were used in gathering all data to measure all major learner objectives.

The evidence indicated that the project activities effectively improved participant behavior. The attempt was to collect evidence that the treatment groups of students gained more from being exposed to the curriculum in terms of stated objectives than did control groups who were not exposed to the curriculum. In each case, the data were successfully tested against the .05 alpha level except in one instance where the results were equivocal. Formative data in the form of reviews by juries of experts, teacher and student feedback sheets, anecdotal records of teachers, and informal interviews between project personnel and cooperating teachers and students further supported program effectiveness.

The programs effectiveness justifies the continued use of the curriculum at the project site at local expense.

B. Context Description

Background Information

The 107th General Assembly of the State of Ohio in its regular 1967-68 session recognized that in the area of health and family living, the difficulties of sexual adjustment, alcohol, tobacco, and drug abuse, and use of violence as among the foremost contemporary problems of youth. It adopted House Resolution 78 which urged the inclusion of "health and family living" education from kindergarten through high school.

There was evidence that these problems were nationwide. In 1968, the National Congress of Parents and Teachers adoped a resolution which urged prompt consideration of an improved educational approach to the problem of alcohol and drug abuse. The U.S. Naval Academy found it necessary to dismiss several students for misuse of drugs. Approximately 56,000 persons lost their lives in highway accidents in the U.S. and it was estimated that half of the accidents involved drunken drivers. Dr. Paul Popenoe*, President of the American Institute of Family Relations, called attention to the rising number of girls married legally at the age of 14 or under and the substantail increase in the divorce rate among these early marriages. Various state departments of health reported increases in venereal disease rate among 12, 13, and 14 year olds amounting from 100% to 200%. The spread of destructive violence among college, high school, and elementary school groups has been documented by the news media.

In mid-1968, Superintendent Martin Essex of the Ohio Department of Education requested the Educational Research Council of America (which has its offices in Cleveland) to make a study of the needs of Ohio Schools as they relate to these social issues. It was hoped this would be the first step in developing curricular materials for the education of youth in these areas. The Family Life Education Survey (FLES) was launched in the summer of 1968.

An analysis of the literature was made in the areas of sex education, drug education, use of alcohol and tobacco, and control of aggressive behavior. The analysis of the studies of the development of constructive and non-constructive behavior in each area provided the foundation for determining what was needed to prevent the development of non-constructive behavior and to facilitate the development of constructive behavior.

A survey of a representative sample of school systems was made to determine the extent to which Ohio schools were providing opportunities for its youth to acquire the knowledge, skills, attitudes, and behavior patterns needed for constructive living. Analysis of the data indicated that little was being provided to help young people.

* Education Symposium on Social Issues--Narcotics, Smoking, Sex, and Alcohol

(1) acquire an understanding and appreciation of such important aspects as the complexity of human motivation,
(2) understand the motivations that may underlie various forms of abuse behavior,
(3) understand how one can resolve his daily frustrations constructively,
(4) learn the difference between a normative approach and a morally developmental approach* to determine what behavior is desirable and what is undesirable or deleterious developmentally.

In the available teaching material for education about the use of drugs, alcohol, and tobacco, the emphasis was almost entirely upon the effects. Little emphasis was given to identifying the probelm that the individual was trying to work out through his abusive behavior. Practically no consideration was given as to how he could work out the problem in more constructive ways. The emphasis on deleterious results without a corresponding emphasis on identifying the basic problem giving rise to the abuse behavior had the effect of putting the individual in a difficult position.

The method that was being used to solve the problem was taken away(that is, made unattractive by learning about the harmful effects) and nothing was put in its place. The task of educating the learner about the use of drugs, alcohol, and tobacco was identified as one that would help him identify his problem and work it out constructively.

The FLES indicated that little attention was being given to helping students develop basic philosophical approaches which was needed to make constructive decisions. Further, the survey of Ohio Schools suggested what studies in other parts of the country had suggested; namely, that much improvement had to be made in teachers' attitudes relative to understanding the causal relationship to various form of youth behavior.

* An example of the difference between a normative approach and a morally developmental approach is furnished by the recent changes that have taken place with respect to attitudes toward smoking cigarettes. Prior to 1963 or 1964, there was considerable emphasis on the social status one acquires by "smoking cigarettes as everyone else is doing" (normative). Then came the Surgeon General's report. This shifted the emphasis to a consideration of the effects of cigarette smoking on health (morally developmental). The strength of the social and habitual forces is indicated by the fact that although the first publication of the report was followed by a slight decline in cigarette consumption, the curve of consumption turned upward again shortly thereafter and continued until late 1968, when another decline began to appear. The direction of thinking relative to the desirability of cigarette smoking is now less in the directions of "more are changing, everyone is doing it" and more in the direction of considering the effects of health and making decisions as to the desirability of smoking in the lights of these effects.

It was proposed that a Family Life Education Curriculum Project consisting of four sub-projects be set up, one in each of four areas, to develop curricular materials to meet these needs. The four sub-projects were sex education, (Westlake) drug education (Dayton), education about the use of alcohol and tobacco (Lima), and constructive control of aggressive behavior (Lakewood.) Each project had as its purpose the development of curricular materials which would include the important aspects of human motivations underlying the behavior under consideration, the nature of frustrations and procedures for receiving them constructively, the process of making decisions in terms of effects of various courses of action on human development, as well as other appropriate material included in many of the curricular units already available.

The purpose of the Dayton Project was to develop and test the effectiveness at the elemntary, junior high, and senior high school levels of curricular materials in education about the use of drugs which incorporated

(1) the more dynamic behavioral science aspects
(2) the basic philosophical approaches needed for constructive resolution of the basic problem giving rise to abuse of these substances

Before the first year of the project was completed, the concern over the reported increasing rates of drug abuse caused a change of plans. A goal of placing junior high drug, alcohol, and tobacco abuse curricular materials in the hands of teachers in the State of Ohio by September, 1970 was decided upon. In order to extend the curriculum and make possible the maximum use of personnel involved, the Lima and Dayton personnel worked together to integrate the drug curriculum (originally being prepared by Dayton teachers) with the alcohol and tobacco curriculum (originally being prepared by Lima Teachers.)

The two developmental sites can be described in the following context:

(1) Dayton, Ohio is basically an urban community in South Western Ohio with a population of 244,000. Heavy and light industry plus two large military installations outside the metropolitan area (Wright-Patterson Air Force Base and the Defense Electronics Supply Center) employ the bulk of the work force. Additionally, there is a thriving small business community. Field testing sites in Dayton were selected from inner-city, peripheral and suburban areas,
(2) Lima, Ohio is basically a combined rural and light industry community in west central Ohio with a population of 54,000. Field testing sites were selected to provide a representative sampling of the broad ranged population.

All levels of the curriculum were also field tested in Toledo, Akron and Aurora--all Ohio cities.

The following is a brief description of these test sites:

(1) Toledo, Ohio: a Lake Erie port community in north western Ohio with a population of 384,000. Field testing sites were selected from inner-city, peripheral, suburban, and parochial schools within the Toledo area.

(2) Akron, Ohio: basically a light and heavy industry community in north eastern Ohio with a population of 275,000. Elementary level materials were tested in school representing the varied socio-economic areas of the city.

(3) Aurora, Ohio: a small suburban community located just outside the Cleveland metropolitan area in north eastern Ohio with a population of 6,500. The senior high materials were tested in the communities single high school.

C. Program Explanation

1. Project Objectives

The objectives of the Dayton project running from 1969 through 1972, were to develop, field test, and evaluate a kindergarten thru senior high school curriculum containing learner objectives of the following type:

(1) increase in student knowledge of the probable effects of the use, misuse, and abuse of drugs (including alcohol and tobacco)
(2) increase in student understanding of human behavior
(3) increase in student developmental attitudes in areas related to use, misuse, and abuse of drugs (including alcohol and tobacco).

These objectives were met in the following sequence:

First Grant Received

During the first grant period ending June, 1970 the following plans were implemented

(1) results of the FLES analyzed
(2) research, preparation, and try out of learning units for grades 6,7,8 (junior high/middle school)
(3) evaluation of the impact of learning units in terms of knowledge, attitudes, and behaviors desired
(4) editing, duplicating, and dissemination of learning units to all project directors and teachers at the four sub-projects
(5) the carrying out of teacher education seminars at the ERCA

Second Grant Received

During the second grant period, ending June, 1971, the following plans were implemented:

(1) the untested combined drug, alcohol, and tobacco junior high school curriculum was tested in experimental and control situations at several schools
(2) prototypes of the high school and elementary school components of the D.A.T. program were field tested in the Dayton and Lima School Districts
(3) the junior high school D.A.T. was extensively evaluated in terms of
    (a) the effects of the program upon the learners through pre-and post testing of experimental and control groups
    (b) feedback from students, teachers, and a jury of experts

Third Grant Received

During the third grant period ending June 29, 1972, the following plans were implemented:

(1) the junior high school component of the curriculum was revised and final revision was printed for distribution
(2) original prototypes of the elementary and high school components of the curriculum were revised and field tested in experimental and control situations at various sites in the Dayton, Lima, Toledo, Akron and Aurora school systems.

Fourth Grant Received

During the fourth grant period ending September 29, 1972, the following plans were implemented:

(1) all data, both summative and formative, from the elementary and high school field testing were extensively evaluated
(2) prototypes of the elementary and high school components of the curriculum were revised based on field testing data
(3) final revisions were sent to press

During field testing of the various components of the curriculum from 1970 through 1972, certain unanticipated needs appeared which were met through an additional grant period running from June 30, 1972 through June 29, 1973. During this additional period, the following plans were implemented:

(1) development of a series of suggestions the teacher can use to deal with overlapping of the human behavior content when both the drug and aggressive programs are taught to the same students
(2) development of a booklet that can be used by the school for
    (a) interpreting the purpose and nature of the program to parents
    (b) suggesting how parents and community can help in drug abuse prevention. All activities related to the development of the teacher suggestions and the booklet were carried out by ERCA personnel.

2. Activities to Achieve Objectives

Teacher-writers from the participating school districts, working with ERCA personnel, achieved these objectives via the following activities:

a. Training of classroom teachers for involvement in curriculum development

Four junior high school teachers from the Dayton and Lima Public Schools prepared for this curriculum research and development assignment (Junior High component) through participation in an eight week workshop at the ERCA during July and August of 1969. During the summer of 1970, eleven elementary school teachers and four high school teachers from the Dayton and Lima School Districts attended similar four-week workshop at the ERCA. The major thrusts at both workshops were to familiarize teachers with the behavioral science base of the curriculum project and to develop prototype units of the curriculum. In all cases, project teachers were selected on the basis of the following criteria:

1. special interest in the area of Family Life Education Curriculum Project (FLECP) (For example, sex educaton, drug education, etc.)
2. ability to interact constructively and creatively with other teachers and with consultants in the development of experimental learning units.
3. desire to participate in a curriculum research and development program that would necessitate changes in teacher and student behaviors.
4. availability to participate in the ELECP full-time during the summer at ERCA
5. open mind to new ideas and to interacting honestly and candidly with teenagers in the area selected by his district. (For example, sex education, drug education, etc.)
6. posses qualities of leadership that would enchance the development of the program.

b. Development of proto-type editions of the materials including pilot testing of units developed and development of assesment instrumants

Prototype units of the Junior High component were developed by project teachers and ERCA personnel during the summer of 1969 and piloted in Dayton and Lima during the 1969-70 school year. Prototype units of the elementary and senior high school components were developed by project teachers and ERCA personnel during the summer of 1970 and piloted in Dayton, Lima, Akron, Toledo, and Aurora (all Ohio cities)

Dr. Carl Terranova, evaluation specialist, in cooperation with other ERCA personnel, had the responsibility for developing evaluation instruments to measure the effectiveness of the program. Evaluation instruments were developed for all levels of the curriculum by

(1) development of items directly from the curriculum
(2) examination of available standardized instruments in the affective domaine
(3) response from students to essay questions
(4) examination of instruments used to measure the effectiveness of other human behavior programs

All tests were pre-tested with appropriate age level students. Scores were analyzed and ambiquity removed from test items. Reliabilities for evaluation instruments were established.

c. Broad based field testing of the materials and implementation of the evaluation design

Development and field testing sites included:

1. Dayton, Ohio: basically an urban community with a population of 244,000. Field testing sites were selected from inner-city, peripheral, and suburban schools within the Dayton area.
2. Lima Ohio: Basically a combined rural and light industry community with a population of 54,000. Field test sites were selected to provide a representative sampling at the broad ranged population.

3. Toledo, Ohio: (Field test site only) A Lake Erie port community, basically urban with a population of 384,000. Field Test sites were selected from inner-city, peripheral, suburban, and parochial schools within the Toledo area.

4. Akron, Ohio: (Field test site only) A heavy and light industry community with a population of 275,000. Elementary level materials were listed in schools representing the varied socio-economic areas in the city.

5. Aurora, Ohio: (Field Test site only) A small suburban community with a population of 6,500, located just outside the Cleveland metropolitan area. The senior high school materials were tested in one class in the communities single high school.

An experimental and control pre-test and post-test design was implemented at all test sites which utilized appropriate measure of

(1) gains in student knowledge in areas related to drug effects
(2) gains in students understanding of human behavior
(3) changes in students developmental attitudes related to drug use, misuse and abuse (junior high and senior high only).

In addition to the objective data generated from the pre-and post-test measures, subjective data was collected by project personnel throughout the project period. This data was derived from four sources:

(1) student feedback sheets
(2) anecdotal records of teachers who had taught the proto-type editions
(3) numerous informal interviews conducted by project personnel with teachers who taught the proto-type editions.
(4) Comments from juries of experts.

Input was also solicited by project personnel from other school personnel not directly involved in teaching the program i.e. building principals, curriculum coordinators, building counselors.)

d. Analysis and interpretation of both objective and subjective data from the above.

All data was collected and analyzed, and interpreted by teacher-writers with the assistance of ERCA personnel. All quantitative data were handled by Dr. Carl Terranova (evaluation specialist, ERCA) and appropriate statistical measures were carried out immediately following each years field testing activities.

e. Revision of proto-types on the basis of evaluation data

Teacher-writers, with the assistance of ERCA personnel, revised all proto-type editions on the basis of data collected. This data included reviews of the proto-type editions by various experts in the field of drug and human behavior education.

f. Development of additional materials whose need became apparent during field testing.

These materials included

(1) a booklet to assist teachers in integration of drug education and control of aggressive behavior curricula, each an extension of the causal approach to behavior

(2) materials to assist in parent education for schools and communities where the curriculum would be implemented. All activities related to the development of these items were carried out by ERCA personnel.

3. Budget Analysis

Total federal support under ESEA Title III	$387,781.72
Total support other than under ESEA Title III	-0-
Total project cost	387,781.72
Total evaluation cost	-0-

4. Cooperative Efforts

Community and state agencies which cooperated in the project between 1969 and 1972 were:

a. Ohio Pharmaceutical Association
b. Dayton Police
c. Local Broadcasting Stations
d. Local Press
e. Parochial School System
f. University of Dayton
g. Wright State University
h. United Fund Agencies
i. Dayton Health and Welfare Planning Council
j. Local Religious Groups
k. P.T.A.
l. Service Associations (Kiwanis, Masons)
m. Encounter, Inc. (Yellow Springs, Ohio)
n. Model Cities
o. Dayton Area Council on Alcoholism and Drug Abuse (DACADA)

The results of both the project and the cooperation of the above agencies include:

1. The formation of a Community Drug Education Advisory Committee which has as its prime function the formation of policy for Board of Education consideration on matters related to drug abuse.
2. The realization of a need for a local central agency to coordinate all efforts related to drug abuse.
3. A mailing list of interested citizens who will assist in meeting the drug problem in the area.
4. A unified concept of how the community may handle the problem (i.e. an accurate projection of rules and functions of all interested individuals and agencies.)
5. Establishment of a Department of Drug Education employing two full time personnel to head drug education efforts in the Dayton Schools

5. Local Agencies served by the project.

Local Agencies which were served by the project include:

a. Dayton Board of Education

a. Whittier Middle School
b. Highview Elementary School
c. Hickorydale Elementary School
d. Belle Haven Elementary School
e. Lewton Elementary School
f. Weaver Elementary School
g. Longfellow Elementary School
h. Webster Elementary School
i. Emerson Elementary School
j. Dunbar High School
k. Roth High School
l. Stivers High School
m. Colonel White High School
n. Roosevelt High School

b. Cincinnati Archdiocese Board of Education

a. Corpus Christi School

c. On-going communication has been established between project personnel and various local drug prevention and drug rehabiliation agencies. A relationship of reciprocal services has resulted with the United Health Foundation (Dept. of Drug Education) and various sub agencies under the funding of the Dayton Area Council on Alcoholism and Drug Abuse (DACADA). Through the cooperation of the Division of Drug Education, Ohio Department of Education, state and regional workshops describing the curriculum and training teachers to use it have been carried out. Through the cooperation of Congressman Charles Whalen, sample sets of the Junior High/Middle School materials were sent to all superintendents in the 3rd and 24th Congressional Districts. Additionally, sample sets of the elementary materials were sent to every school building in the State of Ohio through the cooperation of the Ohio Department of Education.

D. Evaluation of Activities and Outcomes

1. Project Objectives

The objectives of this project were to develop, field test and evaluate a kindergarten thru senior high school curriculum containing educational goals of the following types:

a. increase in student knowledge of probable effects from the use and misuse of drugs including alcohol and nicotine.

b. increase in student understanding of social causality

c. improvement in student developmental attitudes in areas related to use and abuse of drugs including alcohol and nicotine

General and specific objectives and learning activities for achieving these goals are stated in Appendix A.

2. Participants

Student participants in this project were drawn from grades kindergarten thru senior high school from within five cooperating Ohio school districts. Two of the five districts (Dayton and Lima) were also the developmental sites for the curriculum. The remaining three districts were Toledo, Akron, and Aurora. The total sum of participants in treatment groups was 1,932. The total sum of participants in control groups was 1,536. Participation by grade level in both treatment and control groups is reported in Appendix B. Participation by district is reported in Appendices C (Evaluation of Primary, Elementary Curriculum), D (Evaluation of Junior High Curriculum), and E (Evaluation of Senior High Curriculum).

Within each school system, buildings were selectd to provide a wide variety of socio-economic settings. Within each building, principals were asked to randomly select teachers to participate. Teachers and their classes were then randomly assigned as either treatment or control groups. The Dayton sample can be characterized as follows:

a. Elementary (K thru 6)--two co-educational elementary buildings located near, though not directly within the downtown metropolitan area of Greater Dayton. One site housed predominently white, lower-middle income students. The other site housed predrominently white, transient, lower income students. The curriculum was tested at all grade levels, K thru 6, in each building

b. Junior High (8th grade)--one co-educational elementary (K thru 8) building. This site housed predominently black, lower income students.

c. High School (9th thru 12th)--four co-educational high schools with diverse student populations which included:

(1) inner-city, predominently white Appalachian
(2) inner-city, predominently black
(3) peripheral with student population changing from predominently white to majority black
(4) Suburban, predominently white

Descriptions of student populations in the four other participating school systems are given in Appendices C, D, and E (evaluation reports).

Within the Dayton Sample, treatment groups at the elementary (K thru-6th) and junior high (8th) levels received approximately 40 to 45 periods of instruction. Duration of each session varied from fifteen to twenty minutes each in the primary grades to fourty-five minutes each in the upper elementary and junior high grades. With a minimum of exceptions, the program was used daily by treatment groups at these grade levels. At high school levels, within the Dayton sample, each treatment group received a minimum of 25 and a maximum of 35 class periods of instruction. Duration of class periods was fifty to fifty-five minutes.

Description of frequency of use of the program in high school treatment groups within the remaining four participating school districts are given in Appendices C, D, and E. (evaluation reports).

3. Evaluation

a. Experimental Design

In experimental settings, treatment and control groups were established through random selection and assignment by building principals. Standardized instruments were developed by project personnel under the direction of Dr. Carl Terranova, evaluation specialist for ERCA. All instruments were subjected to standard item construction procedures. These instruments were tested with appropiate age level students before use to determine their adequacy. All groups were pretested with the same instruments administered by teachers under standard classroom conditions. Treatment groups were exposed to the curriculum; control groups were not. All groups were post-tested with the same instruments under conditions similiar to pre-testing.

b. Test Instruments

Instruments were used in gathering data to measure all major learner objectives stated. Test questions were developed to measure the attainment of program objectives by

(a) development of items directly from the curriculum
(b) examination of available standardized instruments in the effective domain
(c) response from students to essay questions
(d) examination of instruments used to measure the effectiveness of other human behavior programs.

All test instruments were pre-tested with appropriate age level students. Scores were analyzed and ambiquity removed from test items. Reliabilities for all instruments were established through discrimination and difficulty indices and factor analytic techniques. Samples of all test instruments are included in Appendix F. Reliabilities for test instruments are given in appropriate evaluation reports included as Appendices C, D, and E.

c. Scoring and Analysis of Data

All instruments were hand scored or key-punched and verified by clerical personnel. Scoring was determined by objective keys. Analysis was performed by professional educational research personnel via digital computer. Analysis techniques included T-tests, means, and standard deviations. Additionally, relative rate of increase (RRI) indices were used as were the phi coefficient, Cramer's statistic, and the Pearson r.

(1) Conclusions from summative data

All conclusions related to the attainment of stated learner objectives given in this section are supported by data collected. The evidence indicates that the project activities effectively improved participant behavior. The attempt was to collect evidence that the treatment groups of students gained more from being exposed to the curriculum in terms of

(a) knowledge about probable effects from the misuse, and abuse of drugs
(b) understandings of social causality
(c) improvement in student developmental attitudes in areas related to use and abuse of drugs (measured at junior and senior high only) than did control groups of students who were not exposed to the curriculum.

Following are brief summaries of the conclusions that can drawn from the sets of summative data collected at the

(a) elementary*
(b) junior high
(c) senior high levels

All tabled values, evaluation procedures, and detailed conclusions of the evaluator appear in the appropriate evaluation reports included as Appendices C, D, and E.

*Although elementary level materials were developed for each grade level K thru 6, it was decided not to obtain any kind of objective test measures at the kindergarten level because of the traditionally low reliabilities of such scores and because of the disponportionate amount of time that would have to be spent in giving individual tests.

(aa.) Conclusions--Primary and Elementary level

Student gains in content taken directly from the curriculum and in social causality were measured at each grade level (first thru sixth in six buildings resulting in thirty-six school grade combinations.

A summary of knowledge test results indicates that each of the curricula (i.e. at each grade level) appears to be effective with regard to the tests composed directly from the content of each curriculum. The results is 75 percent (27 of 36 comparisions) of the school-grade combinations are in the hypothasized direction of significant knowledge, test score gains, from pre- to post-conditions, in the treatment classes and no gains, in the corresponding control classes. While the .05 alpha level had been selected as sufficient to denote signifigance, most of the individual treatment groups evidenced gains at the .001 level. A consideration of the comparisions in which both the treatment and control classes reported significant gains, or of the comparisions in which both the treatment and control groups reported no gains, reveals no discernible pattern. In eight per cent of the comparisions there was significantly less variance in post condition knowledge scores among treatment groups.

Significant gains in understandings of social causality were demonstrated in 64 per cent (23 of 36) of the comparisions. Significance was demonstrated at various alpha levels ranging from .05 to.001 with the.001 level resulting with the greatest frequency. Though not as impressive at first glance, as the knowledge test scores, a number of plausible explanations are reinterated by the evaluator in the complete evaluation included as Appendix C. Less variance in post condition social causality scores among the treatment groups was, however, demonstrated in thirty of the thirty-six comparisions (83 per cent) with no comparisions exactly contrary to the hypothesis.

Finally, the possibility of a linear relationship between significant treatment gains in knowledge scores and significant treatment gains in causality scores was explored. Both a phi coefficient of--.02 and an obtained value of .02 using Cramer's statistic indicated a very tenuous relationship, at most.

(bb) Conclusions--Junior High/Middle School

Student gains in

(a) knowledge of probable effects from the misuse and abuse of drugs
(b) understandings of social causality
(c) improvement in developmental attitudes related to use and abuse of drugs were measured among eighth graders in two buildings.

The data from both samples were combined since they exhibited similiar characteristics on the instruments used to measure change. With regard to gains in drug knowledge, the control groups, in each sample and in the combined sample, showed no significant differences between the pre and post tests. The experimental groups, however, did exhibit significant differences between the pre and pre and post tests at the .05 appha level. Those results indicates that the curriculum does significantly effect scores on the drug knowledge test in the desired direction. Further analysis, using Relative Role of Increase (R.R.I.) indices for the combined samples, indicated that the program was 1.96 times as effective in increasing knowledge in this area as no program (i.e. the combined control groups.)

No significant differences between pre and post test scores were demonstrated by either of the control groups, individually or combined, on the social causality test. One experimental group did show significant growth at the .05 alpha level, while the other did not. The combined experimental condition exhibited a significnat difference between the pre and post test scores at the .05 alpha level. These results indicate that the program does significantly effect scores on the Scoial Causality Test in the desired direction. Further analysis, using R.R.I. indices for the combined samples, indicated that the program was 8.08 times as effective in increasing understanding in this area as to program.

Although several conclusions can be drawn from the attitudinal data presented within Appendix D. (Evaluation of...the Junior High Level.) the most obvious was the almost opposite character, in sign, between the control differences and the treatment differences. There was a general tendency for control group responses to move in the undesirable direction on the test instrument. The programs appeared most effective in changing attitudes of students in the treatment groups related to tobacco (7 of 9 scales reached the .05 level of significance) and least effective in changing attitudes of students in the treatment groups related to alcohol inasmuch as there were no significnat differences within that catagory. The program tended to be effective in changing attitudes related to the other drug substances that were measured. Changes by drug category are reported in Appendix D.

(cc.) Conclusions--Senior High Level

Student gains in:

(a) understanding of social causality
(b) knowledge of the probable effects of commonly used drugs
(c) developmental attitudes in areas related to commonly abused drugs, to the degree of causality vs. judgmentalism applied to drugs and drug use, to orientation toward adults and school, and to identification with the drug culture were measured in fourteen treatment groups and twelve control groups from ten high schools in three Ohio school districts. The curriculum was tested at all senior high grade levels (ninth through twelfth.)

For purposes of summary, the following conclusions with regard to the effectiveness of the senior high level of the curriculum are being reported within the context of the combined results from each of the three major test sites. (Dayton, Lima, and Toledo.) The combined data from each of these sites therefore represents the "average" of numerous complex patterns generated by various diverse student populations within each of these major sites. For example, the conclusions reported herein for the Dayton sample are based on the combined data from four highly diverse populations within the metropolitan area. Reference is made to Appendix E (Evaluation Report..Senior High Level) for further examination of the variability of effects within any of the total groups. While this variability did not assume a distinctive pattern, there was some evidence to indicate that more positive results tended to occur in classes prior to the twelfth grade.

As seen graphically below, combined experimental and combined control data from each of the major test effects demonstrate significant increases in ten of the twelve cells. A resistance to the control groups negative change in one of the two remaining cells occurred. Positive effects of the experimental treatment, therefore, have been strongly supported.

Summary of Effects in the Three Major Tests

	Behavior Knowledge	Drug Knowledge	Total attitude
Lima Fall N=258	+	+	R
Spring N=142	++	++	++
Toledo N=380	+	+	++
Dayton N=250	+	+	

+ + = significant increase (.05) by experimental, significant decrease by control (.05)

+ = significant increase (.05) by experimental, no change by control

R = maintained while control decreases (.05)

(2) Conclusions from Formative Date

In addition to the summative evaluation of the curriculum, formative data were collected and analyzed by project personnel. These data were in the form of

(a) written comments from juries of experts
(b) anecdotal records of teacher-writers,
(c) quantifiable responses on both student and teacher feedback sheets
(d) informal interviews with cooperating teachers and students conducted by project personnel. All formative data were analyzed and conclusions utilized during revision processes for the various levels of the total curriculum. Among the many changes in the curriculum that occurred from these data were
    (1) revisions in content
    (2) revisions in format of many of the materials
    (3) increased illustrations
    (4) increased background behavior material in the teacher manuals
    (5) additional and/or revised visual aids (i.e. transparency masters)

With the exception of some formative data which are included in the senior high level evaluation (Appendix E), formative data are not included in this report. Primary reason for this ommission is that these data constitute a bundle too bulky and/or unwieldly to reproduce. All itmes constituting the data, however, can be examined by contacting the project director.

4. Umpredicted Outcomes

At the conclusion of the first year, it determined that a great need was in evidence for in-service education. The concept has been reinforced and repeated. This education must be indepth and cover a great deal of pharmaceutical information as well as sociological and psychological theories. The sensitivity of the individual teacher to the needs of his students is of primary importance when teaching in such attitude-dependent areas such as drug use or sex education.

The second unpredicted outcome has been the acceptance of the drug education project by converned organizations of the local level. This has led to involvement of the staff in planning and execution of related drug programs in Model Cities, Dayton Area Council on Alcohol and Drug Abuse, and Project Cure to name a few. In essence, the drug project is a functioning unit of the community and its efforts to combat drug abuse.

A third outcome of the thrust of the Dayton Public Schools in this area led the project director to becoming a member of the State Training Team by virtue of attendance and participation in a national training institute at Adelphi University during the summer of 1970. The effect of this involvement has been to increase the exposure of the Title III materials over the State of Ohio.

A fourth unpredicted outcome has been the degree of interest shown nationally in the curriculum. Project personnel have responded to a consistent flow of data requests for information and visitors from many other states. This natural visibility was due in great part to the National Validation Process carried out by the USOE, the curriculum's involvement in ED/Fair '72, and the exposure resulting from receiving the national Pacesetter Award. These items are described briefly in Section E. (Dissemination) of this report.

5. Impact of Title III

The major impact to the project site, indeed to the State of Ohio, has been the production of teaching materials which constitute a measurable program of drug and human behavior education for grades kindergarten thru senior high. As a result of dissemination efforts by the Department of Drug Education of the State Department of Education, numerous Ohio school districts are using the curriculum. The comparative costs to school systems for use of the curriculum in relationship to Title III support for development of the curriculum are minimal*.

* Developmental costs for development, field testing, evaluation, and revision were $570,572.28 for grants to both Lima and Dayton as each contributed to the development. Installation cost to the Dayton schools for materials was $.66/ student and continuation cost and $.56/ student

The most visible impact of the ESEA Title III program on the local level is indicated by the degree to which the program activities and objectives have been continued by this school system. The Dayton Board of Education, primarily as a result of the project, now employs two full time drug education resource teachers. Prime responsibilities of these personnel include:

(a) teacher training as pre-requisite to program use
(b) continuous revision of the curriculum in terms of community needs and recent development in drug education
(c) continued evaluation of the program's effectiveness
(d) supervision of classroom instruction
(e) community involvement* Cost of materials is also assumed by the local school system. Dayton resource personnel are frequently called upon by other school systems and other concerned communities for input into their own planning to deal with the problem. Finally, the Dayton personnel have responded to a large volume of requests from teacher training institutions, church and civic groups, and the media for speaking engagements.

* Among the results related to community involvement, has been the formation of a Community Drug Education Advisory Committee composed of community laymen, professionals, and youth. Prime function of the committee is to formulate and present policy recommendations to the local board of education related to various diverse aspects of the total problem.

E. Dissemination

It is impossible to separate the involvment of this project from the activities of the State Training Team of the Division of Drug Education, Ohio Department of Education. Exposure of the project was carried out on a state-wide basis by the team via regional workshops for teachers and orientation meetings for administrators. These workshops and meetings constituted a very wide dissemination of the materials, concept, and results of this Title III project. Sample sets of the primary-elementary materials were sent to every elementary school building in the state of Ohio in cooperation with the Ohio Department of Education. Sample sets of the junior high materials were sent to all superintendents in the 3rd and 24th Congressional Districts by Congressman Charles Whalen. Finally, sample sets of the senior high materials were sent to all superintendents in the state of Ohio in cooperation with the Ohio Department of Education. Numerous out of state requests for materials were received by local project personnel during the grant periods. Since, however, only working copies were in local possession, all requests were forwarded to the Division of Drug Education of the Ohio Department of Education. On site visitations during the developmental stages of the Title III project were minimal; however, numerous letters of inquiry were answered by local project personnel.

Project personnel responded to numerous request on a local and statewide basis for presentations. Presentation sites, including dates and types of audience, are included in Appendix G. Further, project personnel participated in the regional orientation meetings for administrators and supervisors and workshops for teachers conducted by the Division of Drug Education, Ohio Department of Education.

National exposure of the project and resulting product resulted from participation in the USOE's ED/Fair '72 in the spring of that year. Further national visiability occurred when the project was nom inated for and passed a national validation process conducted by the USOE. Publicity resulting from receipt of the Natural Pacesetter Award further promoted dissemination of project concepts, results, and, and numerous instances, materials on a national level.

Two brochures explaining program concepts and cost were developed in quantity and are continusously distributed upon request both locally and nationally. A large, illuminated display case featuring candid prints of classroom instruction, materials, and the behavioral model on which the curriculum is built, was professionally developed and has been displayed at both local and state level meetings and conferences.

Finally, during the final funding period, 1972-73, school classroom use of the curriculum and its impact on students and parents was documented as part of an Ohio Bureau of Drug Abuse film "Who Cares". The film has since been carried by commercial broadcasters in the public interest and is available from Ohio B.U.D.A. upon request.

The financial expenditure for dissemination during the first grant period totalled $1200.00. This cost was for the development of the illuminated display case and printed matter*.

* In cooperation with the Ohio Department of Education and the Educational Research Council of America, curricular materials were sent to approved lists of schools during the earlier grant periods. Cost imformation for this dimsemination procedure is available at the Ohio Department of Education.

While numerous techniques and activities were effectively employed in relating project information to the public and to Ohio school personnel, project personnel have assessed two broad procedures as being especially effective. The impact of the regional workshops and orientation meetings on administrators and teachers in terms of program acceptance was highly effective as evidenced by both the feedback data that was collected and the eventual use of the program by numerous school districts represented. Within the format of these meetings, designed and conducted by the State Training Team of the Division of Drug Education, the use of teachers who had previously used the curriculum appeared to be a highlight at each session. Secondly, people to people contact resulting from speaking engagements, telephone inquiries and on site visitations appeared highly effective in terms of clarifying aspects of the project and the curriculum.

F. Recommendations

On the basis of the success of this curriculum development project in increasing elementary and secondary students' understandings of the harmful effects of drugs, of social causality, and of positive developmental attitudes in areas related to drug usage, the authors of this report recommend that:

(a) use of the curriculum should be continued at the project site
(b) efforts to respond to state and national inquiries should continue at the project site
(c) apparatus and personnel necessary to develop (or continue) local and regional teacher training programs as pre-requisite to use of the curriculum should be instituted
(d) the possibilities for further refinement and continued evaluation of the curriculums impact on teachers, students, and communities should be considered. These recommendations can be further supported by several additional factors drawn from the data presented in preceeding sections of this narrative:

1. The curriculum provides not merely a program of drug information, but additionally, a program in understanding human behavior from kindergarten through senior high school. The approach requires the individual to look beyond the surface manifestations of behavior, (e.g. drug abuse and other behaviors) and consider causes, alternative behaviors, and consequences. Thus, a comprehensive program for all students, at all levels, that examines motiviations, value, and decision-making processes in now available in the area of drug abuse prevention.

2. The curriculum provides the opportunity for the teacher to become more active and more effective as a front-line participant in the guidance process, providing resources which may be used to improve teacher skill in the guidance area.

3. The principles utilized in the human behavior portions of the program (the causal approach to human behavior) may be applied by teachers to other curricular areas; thus, improving the probability of an improved educational climate more closely related to the wide-range of student needs.

4. The curriculum stimulates teacher interest in better understanding the behavior of his or her students and encourage a more humane, less arbitrary, judgmental approach to student behaviors.

5. With students' increased knowledge of human behavior, as well as knowledge of drug effects, they have been provided with resources to assist them in decision-making in situations where they are on their own.

6. The curriculum requires a minimum of expense for implementation.

F. ERIC RESUME'

Summary of Dayton, Ohio's ESEA Title III Project
D.C.E.Y.M.M.P.--Drug Education Component

Objectives of the project were to develop, field test, and evaluate a kindergarten through senior high school curriculum containing learner objectives of the following types:

a.--increase of student knowledge of probable effects of the use, misuse, and abuse of drug substances
b. increase of student understanding of human behavior
c. increase in student developental attitudes in areas related to use, misuse, and abuse of drug substances.

Numerous experimental settings established at all grade levels within five cooperating Ohio school districts resulted in diverse student populations served by the project. Standardized instruments were developed and employed in gathering all data used to measure attainment of all major learner objectives. An experimental-control, pre-and post-test design generated evidence that the project activities effectively improved participant behavior. In each case, the data were successfully tested against the .05 alpha level except in one instance where the results were equivocal. Formative data in the form of reviews by juries of experts, quantifiable responses on teacher and student feedback forms, anecdotal records of teachers, and informal interviews between project personnel and cooperative teachers and students further supported program effectiveness.

The curriculum in the form of teacher manuals, student books, and various audio-visuals, was adopted by the local Board of Education and is currently in its second year of system-wide use at Board expense.

PTR

Appendices

A--Objective/Activities

B--Participants by Grade Level

C--Elementary Evaluation Report

D--Jr. High Evaluation Report

E--Sr. High Evaluation Report

F--All Test Items

G--Local Presentations

BEHAVORIAL OBJECTIVES

Objectives and Activities for Kindergarten

1. The pupil will discover the purpose of school as a place to help children learn as shown by his ability (a) to name some things he would like to learn at school, (b) to tell about facilities and materials available and how they are used, and (c) to identify and describe the roles of school helpers.
2. The pupil will understand the role of the teacher and begin to develop a comfortable person to person relationship with him as shown by the pupil's ability (a) to tell some ways the teacher can help him learn and (b) to willingly share problems with the teacher.
3. The pupil will learn how people may deal with their worries as shown by his ability (a) to discuss fears or worries he and others may have and suggest possible ways of overcoming them and (b) to name those people who might help him and others with problems.
4. The pupil will begin to understand causes of behavior as shown by his ability to propose possible reasons for given behavior patterns.
5. The pupil will begin to understand the importance of sharing and taking turns as shown by his ability (a) to take turns in daily classroom situations and (b) to share materials, ideas and feelings with others.
6. The pupil will recognize the feeling of "counting for something" as shown by his ability (a) to identify the need for self worth in himself and others and (b) to describe a situation in which he or another person felt important.
7. The pupil will determine ways of dealing with the need for activity as shown by his ability (a) to tell several things he may do for activity in and out of class and (b) to tell how a daily schedule can help him avert restlessness.
8. The pupil will distinguish between helpful and nonhelpful ways of dealing with angry feelings as shown by his ability to name constructive and nonconstructive means of handling common angry feelings.
9. The pupil will recognize ways of satisfying his desire to explore new things as shown by his ability (a) to tell what he might do when he finds a strange substance or tool and (b) to name people he may ask about new things.

Objectives and Activities for First Grade

1. The pupil will demonstrate his understanding of school as a place to help him and other children learn, as shown by his ability to discuss the things he learns at school that he does not learn at home and to explain why rules are necessary at school.
2. The pupil will demonstrate his understanding of the teacher's role, as shown by his ability to give examples of how the teacher can be of help to him and discuss ways that teachers and pupils can work together.

3. The pupil will begin to develop helpful ways to deal with fears and worries, as shown by his ability to discuss problems he has at school and at home that bother him and to explain how teachers, parents, and other adults may be of help to him when he is trying to deal with fears and worries.

4. The pupil will begin to understand the importance of not judging or labeling behavior, as shown by his ability to look for reasons for behavior in others before reacting to it.

5. The pupil will understand and appreciate the the importance of sharing and taking turns, as shown by his ability to name times when sharing and taking turns are important in the classroom and discuss some possible reasons why.

6. The pupil will demonstrate helpful methods of achieving the feeling that he counts for something, as shown by his ability to give examples of things he can do alone and with others to achieve worthwhile feelings.

7. The pupil will develop helpful methods that satisfy his need for activity, as shown by his ability to (a) distinguish between active and nonactive forms of participation, (b) give reasons why both are needed, (c) work with the teacher in developing a flexible framework to provide a structured plan for the day, and (d) identify helpful and nonhelpful ways in which he can deal with his need for activity.

8. The pupil will begin to develop helpful ways to deal with anger and frustration, as shown by his ability to (a) talk about his own feelings of anger and how he deals with them, (b) discuss possible causes and consequences of angry reactions, and (c) describe several helpful ways of handling angry feelings.

9. The pupil will learn helpful ways of satisfying his desire to manipulate and explore unfamiliar things, as shown by his ability to suggest and try out helpful methods when he is confronted with something new or strange.

10. The pupil will begin to understand that different people grow at different rates mentally, emotionally, and physically and that children can help each other develop helpful characteristics, as shown by his ability to (a) describe differences among his classmates, (b) tell some reasons why these differences occur, (c) identify some things he likes about himself and some things he does not like, and (d) demonstrate ways he can take advantage of his assets and help others to do the same.

11. The student will understand the meaning of balance as shown by his ability to (a) distinguish between working together cooperatively and uncooperatively (filmstrip), (b) demonstrate ways that he can cooperate in various situations (role playing, puzzle), and (c) identify examples of balance (blocks, games).

12. The student will understand the difference between using something and misusing it as shown by his ability to (a) choose the correct function of certain objects or tools (worksheet), (b) choose the best tool to perform a given task (worksheet), (c) distinguish

between using and misusing tools (filmstrip), and (d) demonstrate how he uses various tools correctly (role playing).

13. The student will be aware of the use and misuse of various substances in and around the home as shown by his ability to (a) tell how various substances are meant to be used and how they can be misused (filmstrip, stories, "smelling party") and (b) match pictures of various substances with possible consequences of their use and misuse (worksheet).

14. The student will know what to do if he sees children misusing substances as shown by his ability to (a) identify pictures of various people who help in time of trouble (filmstrip, role playing), (b) tell who can help in various situations (worksheet), and (c) tell what he would do in a given situation (stories).

Objectives and Activities for Second Grade

1. The pupil will continue to develop his understanding of the role of the teacher and of the purpose of school, as shown by his ability to give examples of how the teacher can help him and how he can share problems with the teacher willingly, and to discuss some reasons why we have schools.

2. The pupil will continue to develop his understanding of the necessity of having rules, as shown by his ability to give reasons why there are rules related to games, health, safety and classroom operation, and participate in the discussion and setting of classroom rules.

3. The pupil will develop the ability to work with the teacher in seeking solutions to his problems, as shown by his ability to suggest and evaluate situations where teacher assistance may be needed and discuss possible ways that teachers and pupils can work together in problem situations.

4. The pupil will develop an understanding of how to deal with his fears and worries, as shown by his ability to identify some things that frighten or worry him and explain possible ways to deal with such things.

5. The pupil will strengthen his idea of withholding judgement until he has learned something about the causes of the behavior, as shown by his ability to give examples of situations that illustrate prejudging leading to nonhelpful assumptions, and to identify people's feelings as possible causes of behavior.

6. The pupil will understand the importance of sharing and taking turns, as shown by his ability to discuss his feelings about situations when sharing and taking turns are involved.

7. The pupil will recognize the need for himself and others to feel that he "counts for something," as shown by his ability to describe his feelings when he is successful compared to how he feels when he is not achieving success.

8. The pupil will develop his understanding of the need for activity and ways to satisfy this need, as shown by his ability to explain how the need for activity relates to learning in the classroom.

9. The pupil will develop constructive, helpful ways of dealing with angry feelings, as shown by his ability identify various methods and tell possible reasons why some of the ways to deal with angry feelings can be helpful.

10. The pupil will develop the ability to check his feelings and behavior in manipulating unfamiliar objects, as shown by his abilitytodescribe and demonstrate what safety precautions he might take in given situations.

11. The pupil will expand his understanding of individual differences, as shown by his ability to discuss various ways children grow and reveal their individuality.

12. The student will become more aware of his external environment as shown by his ability to (a) list a number of things outside himself (filmstrip, old magazines), (b) differentiate between cultural and natural things in this external environment (pictures from magazines, samples from the external environment), and (c) describe the use or function of natural things in the external environment (role playing, riddles).

13. The student will understand the concept of balance as it is used in this program as shown by his ability to (a) identify examples of balance and out of balance (filmstrip, games, blocks, student book) and (b) identify examples of working together cooperatively (ball, board, ingredients for candy, cooking utensils, student book).

14. The student will relate the concept of balance to his external environment as shown by his ability to (a) identify what living things need in order to live in the external environment (role playing, write a story), (b) show how elements in nature seem to work together cooperatively to keep balance in the external environment (make a chart, make a terrarium), and (c) identify some elements that work together cooperatively to keep balance in the external environment (Student Book, filmstrip, terrarium).

15. The student will become aware of the ways man's behavior affects balance in the external environment as show by his ability to (a) give examples of man's behavior that upsets balance in the external environment (terrariums, filmstrip, Student Book), (b) give examples of man's behavior that restores balance to the external environment (terrariums, filmstrip, Student Book), (c) give examples of man's behavior that maintains balance in the external environment (filmstrip, Student Book), and (d) explain how environmental helpers can aid people in maintaining and/or restoring balance in the external environment (Student Book, letters, role play).

16. The student will develop insight into the reasons why man upsets the balance in the external environment as shown by his ability to (a) identify a number of examples as in or out of balance (filmstrip, magazines), (b) tell why man has contributed to the balance or out of balance in several ways (filmstrips, magazines),

and (c) describe the consequences of man's behavior (role play, field trip, drawings).

17. The student will learn a method for deciding whether behavior is in or out of balance with the external environment as shown by his ability to (a) compare the consequences of out of balance to both himself and his external environment (Student Book) and (b) state an opinion about whether a specific behavior would be:
    1. good for him and good for his external environment
    2. good for him and bad for his external environment (opinion poll)

18. The student will be aware that there are alternatives for behaviors that produce an out of balance in the external environment as shown by his ability to (a) examine alternatives to behavior that cause out of balance (filmstrip, Student Book) and (b) suggest alternative forms of behavior that will be good for both him and the external environment (discussion).

19. The student will appreciate balance in the external environment as shown by his ability to (a) convince others that balance is desirable (write commercials, Student Book) and (b) make a commitment affirming his desire to maintain balance in his external environment (write a class pledge, Student Book).

Objectives and Activities for Third Grade

1. The pupil will recognize different attitudes toward school, give several possible reasons for these attitudes, and explain how each might be helpful or not helpful to his learning, as shown by his ability to identify several positive and negative attitudes in himself and others, discuss how he thinks these attitudes developed, describe their possible effects, and demonstrate at least one way he can begin to change any negative attitudes.

2. The pupil will grow in his understanding of why rules and authority are necessary, as shown by his ability to explain the importance of having rules, participate in setting rules, live within the boundaries of these rules, and help determine and accept the consequences of breaking them.

3. The pupil will understand the need for the teacher to have knowledge about his individual learning problems and differences, as shown by his ability to supply the teacher with information about his needs and feelings.

4. The pupil will grow in his feelings of security, as shown by his ability to identify possible causes of security and insecurity and suggest possible alternative methods to help correct the insecurities.

5. The pupil will continue to strengthen his idea of withholding judgment until he has learned something about the causes of behavior, as demonstrated by his ability to list physical and emotional needs as causes of behavior, name possible needs as causes for behavior in a given situation, and withhold judgment in classroom behavior situations until he has identified possible

needs that are causing them.

6. The pupil will develop an understanding of feelings of achievement—the need for himself and others to feel that they "count for something"—and feelings of boredom, as shown by his ability to identify his feelings of achievement and boredom or frustration, and suggest and participate in constructive methods of work and play.

7. The pupil will continue to develop constructive ways of dealing with angry feelings, as shown by his ability to recognize helpful and nonhelpful methods of handling anger and suggest possible helpful ways of handling angry feelings.

8. The pupil will grow in his understanding of individual differences as they relate to him and others, as shown by his ability to describe possible reasons why people have differences in ability, size, and interests; and demonstrate acceptance of his own and others' individual differences through his behavior in social situations.

9. The student will gain a greater awareness of his internal environment as show by his ability to (a) identify the three main environments (home assignment, chart), (b) differentiate between aspects of his internal and external environments (Student Book), (c) identify some of the important parts of his internal environment (filmstrip, Student Book), (d) group the important parts of his internal environment into four main body systems (bulletin board cutouts, Student Book), and (e) describe in his own words the main function of each of the four body systems (investigative activities, Student Book).

10. The student will develop further his understanding of the concept of balance as used in this program as shown by his ability to (a) differentiate between balance and out-of-balance situations (filmstrips, Student Book), (b) explain his reasons for differentiating between examples of in and out of balance with the external environments (Student Book), and (c) give examples of in and out of balance from the external environment (home assignment).

11. The student will relate the concept of balance to the internal environment as shown by his ability to (a) describe why it is necessary for the organs of a system to work together cooperatively so he can maintain balance (Student Book), (b) describe ways his body systems cooperate to maintain balance so he can continue to feel good (small group discussion), and (c) describe ways his body systems attempt to restore balance so he can feel good again (Student Book).

12. The student will become aware of the ways man's behavior affects balance in the internal environment as shown by his ability to (a) describe ways he can help maintain balance in his internal environment so that he can continue to feel good (Student Book, art work), (b) describe ways he can help restore balance to his internal environment so that he can feel good again (art work, home assignment), (c) identify an environmental helper as someone who helps a person maintain or restore balance with his environments

(Student Book), (d) choose the best environmental helper to help him in maintaining or restoring balance to his internal environment (Student Book, small group work), and (e) make a list of substances that he knows from his own experience may upset balance in his internal environment (Student Book).

13. The student will develop insights into the reasons for man's upsetting the balance in his internal environment as shown by his ability to (a) identify the most likely consequences of taking certain substances into the body by differentiating those substances into two categories: good for the internal environment and bad for the internal environment (Student Book, chart), (b) identify situations whose outcomes are bad for the internal environment (Student Book), and (c) explain how the person hopes to feel when he decides to take the substance that upsets the balance of the internal environment (Student Book, discussion).

14. The student will learn a method for deciding whether behavior is in or out of balance as shown by his ability to (a) compare hopes with outcomes, using the balance equation and (b) identify and explain in-balance and out-of-balance situations.

15. The student will be aware that there are alternatives for those behaviors which produced an out of balance in the internal environment as shown by his ability to (a) anticipate outcomes on the internal environment in a number of behavioral situations (Student Book, small-group discussions), (b) in a number of behavioral situations choose behaviors he prefers in a number of behavioral situations (Student Book), and (c) suggest alternative ways of behavior that would be good both for him and for his internal environment (discussion).

16. The student will appreciate balance in the internal environment as shown by his ability to (a) in a given number of behavioral situations, choose behaviors that maintain balance with the internal environment (Student Book, discussion, chart) and (b) make a commitment showing his desire to maintain balance and thus prevent pollution within the internal environment (Student Book, projects).

Objectives and Activities for Fourth Grade

1. The student will be able to identify positive and negative attitudes toward school and society, give several possible reasons for these attitudes, and explain how each might be helpful or not helpful to his learning and daily living.

2. The student will grow in his understanding of why rules and authority are necessary, as shown by his ability to participate in setting rules, live within the boundaries of those rules, help determine and accept the consequences of those rules, and discuss the importance of having rules.

3. The student will grow in his feelings of security, as shown by his ability to identify possible causes of security and insecurity and to suggest alternatives to reduce feelings of insecurity.

4. The student will continue to strengthen his ability to withhold judgment until he has learned as much as he is able to about the causes of the behavior, as shown by his ability to list physical and emotional needs as causes of behavior and propose possible causes for behavior in a given situation.

5. The student will develop an understanding of feelings of achievement—the need for himself and others to feel that they count for something—and boredom, as shown by his ability to identify his feelings of achievement and boredom and suggest constructive methods for finding stimulating methods of work and play.

6. The student will continue to develop constructive ways of dealing with angry feelings, as shown by his ability to recognize helpful and nonhelpful methods of handling anger, and suggest and use helpful ways of handling anger.

7. The student will grow in his understanding of individual differences as they relate to both himself and others, as shown by his ability to give several possible reasons why people have differences in ability, size, and interests, and show acceptance of these differences in his behavior.

8. The student will understand the need for the teacher to have knowledge about his individual learning problems and differences, as shown by his ability to supply the teacher with information about his needs and feelings

9. The student will be aware of his social environment as shown by his ability to (a) differentiate between aspects of internal, external, and social environment (classify pictures, label words), (b) write his own initial definition of social environment, (c) identify important roles in the social environment (story, hats, play), (d) group the roles into four main social systems (outline to fill in), (e) describe the functions of the four main social systems (children finish sentences), and (f) revise his definition of the social environment

10. The student will understand the concept of balance as used in this program as shown by his ability to (a) describe what being in balance means, (b) differentiate between in-balance and out-of-balance situations, (c) explain his reasons for differentiating between examples of in and out of balance with his internal environment, and (d) give examples of in and out of balance from his own internal and external environments.

11. The student will relate the concept of balance to the social environment as shown by his ability to (a) describe how people work together cooperatively in the social environment and (b) describe how elements in the social environment contribute to balance.

12. The student will become aware of the ways man's behavior affects balance in the social environment as shown by his ability to (a) describe the ways systems and the individual in his social environment work together cooperatively to maintain balance (overhead, alternative - charade type game), (b) identify ways in which the social systems and individuals in the social environment attempt

to restore balance (multiple choice questions), (c) identify those environmental helpers who assist persons in maintaining or restoring balance with their social environments (matching), and (d) describe ways people in the social environment upset balance (pictures and story).

13. The student will develop insight into the reasons for upsetting balance in the social environment as shown by his ability to (a) identify from a list of examples, those behaviors that have upset balance in the social environment, (b) explain some feelings a person may be trying to satisfy when he chooses a particular behavior, (c) determine how some behaviors upset balance, (d) apply the above analysis to personal experiences, and (e) using personal experiences, explain how his own behavior was in balance or out of balance with his social environment.

14. The student will learn a method for deciding whether behavior is in or out of balance with the social environment as shown by his ability to (a) select from a number of ways that a person could choose to behave the ones they think might lead to an out-of-balance social environment (multiple choice situations), (b) analyze the results of the chosen behaviors as to whether people within the four social systems of their social environments feel good or bad (Students take situations and decide whether the behavior was good/bad for each system.), (c) categorize behaviors as to whether their outcomes were good or bad for the social environment, and (d) give from his own experiences a number of chosen ways of behaving that have led to an out-of-balance social environment (those he has seen and done).

15. The student will describe alternative behaviors to those producing out of balance in the social environment as shown by his ability to (a) anticipate outcomes on his social environment in a given number of situations (children write behaviors and outcomes), (b) in a number of behavioral situations, choose behaviors he prefers in order to feel good (circle preference), (c) analyze his own choice and alternative choices as to whether they are permitting him to be in balance or out of balance with his social environment (balance equation), and (d) suggest alternative ways of behaving that would be good both for him and for his social environment.

16. The student will appreciate balance in the social environment as shown by his ability to (a) create a project to prevent pollution in the social environment, (b) make a commitment confirming his desire for balance in his social environment, and (c) make an improvement in his own social environment.

Objectives and Activities for Fifth Grade

1. The student should be able to demonstrate a knowledge of probable physiological effects of the use and misuse of medical drug substances on the body and central nervous system as evidenced by: (a) listing five physiological needs described in this program and telling how specific organs and systems work interdependently in satisfying those physiological needs, (b) describing in his

own words examples in which medical use of drugs may aid in restoring or correcting the interdependent balance among the body systems and processes when they are upset, and (c) describing in his own words examples in which the misuse of medical drugs can have harmful or undesirable effects on the interdependent balance of body processes and systems.

2. The student will continue to develop a positive attitude toward school as evidenced by his ability to identify his own attitudes toward school, to discuss possible causes for these attitudes in himself and others, and to describe ways of changing negative attitudes.

3. The student will expand his understanding of why rules and authority are necessary as evidenced by his ability to explain the importance of having rules, to participate in creating rules, to live within the boundaries of these rules, and to determine and accept the consequences of breaking the rules.

4. The student will continue to develop a recognition and understanding of secure and insecure feelings as demonstrated by his ability to list the possible causes of these feelings in himself and others and describe alternative, constructive methods for dealing with insecure feelings.

5. The student will continue to develop his ability to react causally to behavior situations as demonstrated by his ability to withhold judgement about behavior until he has listed causal questions to gather necessary information, described alternatives, and examined consequences of these alternatives.

6. The student will continue to develop a positive self-concept as demonstrated by his ability to identify some of his own feelings of boredom and achievement at work and play and to describe constructive methods of limiting instances of boredom and expanding experiences of achievement for himself and others.

7. The student will continue to develop helpful methods of handling feelings of anger and frustration as demonstrated by his ability to describe alternative methods of handling them and to choose constructive methods after he has examined the causes of the feelings, alternative methods, and their consequences.

8. The student will continue to develop an acceptance and appreciation of individual differences among people as demonstrated by his ability to describe strengths and weaknesses of various people and to discuss their contributions.

Objectives and Activities for Sixth Grade

1. The student should demonstrate a knowledge of the probable effects from the use and abuse of (1) depressant, (2) stimulant, and (3) hallucingenic drug substances on the body and central nervous system as evidenced by (a) illustrating the interdependent balance among body needs, processes, organs, and systems in an original drawing or model and discussing examples of conditions that might

upset the balance and (b) telling in his own words how a given drug substance might enter the body and affects its interdependent balance and behavior.

2.. The student will continue to develop a positive attitude toward school as evidenced by his ability to identify his own attitudes toward school, discuss possible causes for these attitudes in himself and others, and to describe ways of changing negative attitudes.

3. The student will expand his understanding of why rules and authority are necessary as evidenced by his ability to explain the importance of having rules, to participate in creating rules, to live within the boundaries of these rules, and to determine and accept the consequences of breaking the rules.

4. The student will continue to develop a recognition and understanding of secure and insecure feelings as demonstrated by his ability to list the possible causes of these feelings in himself and others and describe alternative, constructive methods for dealing with insecure feelings.

5. The student will continue to develop his ability to react causally to behavior situations as demonstrated by his ability to withhold judgement about behavior until he has listed causal questions to gather necessary information, described alternatives, and examined consequences of these alternatives.

6. The student will continue to develop a positive self-concept as demonstrated by his ability to identify some of his own feelings of boredom and achievement at work and play and to describe construcive methods of limiting instances of boredom and expanding experiences of achievement for himself and others.

7. The student will continue to develop an acceptance and appreciation of individual differences among people as demonstrated by his ability to describe strengths and weaknesses of various people and to discuss their contributions.

Objectives and Activities for Junior High School

1. The student will be able to formulate and express his own concerns about DAT, as demonstrated by his ability to (a) report on the present problems of DAT in society, (b) list a number of concerns society has about DAT abuses, and (c) indicate his own initial interests and questions.

2. The student will gain more of an historical perspective of the problems of DAT, as demonstrated by his ability to (a) discuss the historical backgrounds of those specific DAT's that he listed and wishes to consider further, (b) differentiate those DAT's with relatively recent origins from those with long historical backgrounds, (c) reformulate his interests and questions on DAT in light of his insights about current problems in this area.

3. The student will develop a definition that approximates a commonly-accepted definition of the term "drug," as demonstrated by his ability to (a) differentiate those drugs discussed in Objective 2 from other given substances, (b) explain the differences between those drug substances and non-drug substances, (c) develop his own definition of the "drug" as it applies to those differences suggested in the previous learning activity.

4. The student will develop an understanding of the purpose of using DAT, as demonstrated by his ability to (a) indicate from his readings and from the tapes some common reasons that people give for using DAT to alter their minds and bodies, (b) indicate his own ideas about why people use DAT in order to alter their minds and bodies, and (c) group into three distinct categories the reasons why people use DAT to alter their minds and bodies.

5. The student will be able to understand the physiological effects of DAT on the CNS and the body, as demonstrated by his ability to (a) describe probable effects of various drug substances on the CNS and the body and on human behavior, (b) identify the parts of the body and the CNS and describe their corresponding functions, and (c) specify the physiological effects of DAT on the body.

6. The student will be able to understand the terms "physical dependence," "psychological dependence," "tolerance," and "withdrawal illness," as demonstrated by his ability to (a) define the term "physical dependence," list drugs producing physical dependence, and give examples of characteristics of persons who are physically dependent, (b) define the term "psychological dependence," list drugs producing psychological dependence, and give examples of persons psychologically dependent, (c) define the term "tolerance" and give characteristics of a person who has developed tolerance for some drug substance, and (d) define the term "withdrawal illness" and give examples of drugs which produce such symptoms in rank order of danger to human life.

7. The student will be able to understand both the medical and non-medical uses of drugs and the need for medical and legal control, as demonstrated by his ability to (a) classify medical and non-medical reasons why people use drugs, and (b) list the consequences, both medical and legal, of DAT use and abuse.

8. The student will realize that a knowledge of the effects of DAT on the CNS and body are not sufficient to explain why people abuse DAT, as demonstrated by his ability to (a) list reasons given by former drug abusers as to why they thought they abused DAT.

9. The student will be able to understand that there are many causes of behavior and that there are several contributing factors which interact to cause this behavior, as demonstrated by his ability to (a) write an explanation that shows that knowing the causes of behavior is important to the understanding of why people act as they do, (b) write the behavior equation, (c) identify certain needs, or forces of motivation (FM), that each person has, as suggested by Maslow, (d) identify the most probable forces of motivation (FM) in a given behavioral situation, (e) define and list several common resources (R) people can use to satisfy a

given force of motivation, (f) indicate how the use of drugs, alcohol, and tobacco as resources may satisfy certain forces of motivation, (g) define and demonstrate how different people, places, and things (immediate physical setting) can influence the use of resources and ultimate behavior when given a particular FM and IPS, and (h) list at least five resources that would satisfy the needs of the student, when given specific FM's and IP's.

10. The student will be able to differentiate between the causal approach to human behavior and the judgmental approach, as demonstrated by his ability to (a) divide specific behavioral situations into two general categories, (b) explain the differences between the two ways of thinking classified in Objective 10.a., (c) define the terms "judgmental thinking" and "causal thinking" as they apply to the differences in the previous learning activity, (d) compare his definition of the terms "causal thinking" and "judgmental thinking" with an acceptable definition of those terms, and (e) distinguish between the causal approach and the judgmental approach in various given behavioral situations.

11. The student will be able to recognize that behavior has both immediate and long-range consequences that may be stated in terms of probability of occurrence, as demonstrated by his ability to (a) define short-term and long-range consequences, (b) identify short-term and long-range consequences when given behavioral situations, (c) list short-term effects of drugs, alcohol, and tobacco, (d) list the long-range consequences of drugs, alcohol, and tobacco, and (e) considering the long-range consequences, list a number of ways to turn down Drug, Alcohol, and Tobacco invitations.

12. The student will understand that one's commonly used resources may become ineffective in satisfying needs, as demonstrated by his ability to (a) indicate that one's needs are not satisfied when commonly used resources become blocked and (b) indicate that one's needs are not satisfied when commonly used resources become inadequate.

13. The student will understand that when one's commonly used resources become ineffective, alternate resources are developed to satisfy needs, as demonstrated by his ability to (a) suggest alternative resources in a given number of behavior situations when a commonly used resource has been blocked and (b) suggest alternative resources to the ineffective ones in a given number of behavior situations.

14. The student will understand that some people who find their commonly used resources to be ineffective choose DAT abuse as an alternative resource, as demonstrated by his ability to (a) indicate the resource being used and (b) suggest what this person is not considering in choosing this alternative resource to satisfy his needs.

15. The student will develop a personal view of DAT consequences, as demonstrated by his ability to (a) list all consequences of DAT abuse that he has seen, heard, experienced, or thought, and (b)

rank in order those consequences, both positive and negative, that are from the most real to the least real to him.

16. The student will understand and appreciate the different methods used in making decisions, as demonstrated by his ability to (a) define and discuss four methods of making decisions, and (b) identify the four methods of decision making in behavior situations.

17. The student will recognize his own style of decision making, as demonstrated by his ability to (a) identify the method of decision making that he used in various real-life situations.

18. The student will develop alternative resources that produce the positive consequences he desires, as demonstrated by his ability to (a) indicate, recalling from the first two units, that there are a variety of alternative resources to drugs, alcohol, and tobacco that will satisfy a person's needs.

19. The student will evaluate some of the many reasons people give for turning to DAT use/abuse, as demonstrated by his ability to (a) select certain reasons people give for DAT use/abuse, and (b) decide if the reasons are valid from a behavioral viewpoint.

Objectives and Activities for Senior High School

1. That I, the learner begin to understand the nature and extent of the problems arising from the abuse of psychoactive agents and develop an understanding of the importance of this study as shown by the ability to (a) list commonly used psychoactive agents and their effects, (b) relate how I feel about drug use and abuse, (c) develop a list of things I want to know about the use and abuse of drugs and related substances, (d) develop with other members of a small group significant objectives to guide our study of the use and abuse of psychoactive agents, and (e) (Optional) identify reasons why the above questions and objectives are significant to me.

2. That I, the learner, understand probable reasons for the increased attention given to drug use and abuse by my ability to (a) describe current reactions to our society to psychoactive agent use and abuse, (b) develop preliminary hypotheses about probable causes for these reactions, and (c) relate general principles of drug use and abuse and society's reaction to them in the history of man.

3. That I, the learner, develop an understanding of and appreciation for the factors producing human behavior as shown by my ability to (a) define motivating forces in terms which indicate a personal understanding of the concept, (b) describe some of the motivating forces which have been found to cause human behavior, (c) identify and define resources an individual might call upon to satisfy a given motivating force, (d) when given an example, show how a particular behavior is the result of an interaction of the motivating forces operating within the individual and the resources which he has concurrently available, and (e) describe some of the motivating forces which may be found to cause his own behavior.

(f) describe what happens when frustration develops from the blocking of one or more motivating forces, and (g) describe possible effects of understanding the dynamics of human behavior upon one's own behavior.

4. That I, the learner, develop an understanding and appreciation of the dynamics of drug abuse behavior as shown by my ability to (a) differentiate between dealing with misuse behavior in an arbitrary, judgmental way and in a manner that takes causes into account, (b) describe several examples of drug abuse behavior and indicate what motivating forces were probably involved, what resources were used, and how the individual developed these resources, (c) (Optional) discriminate between the environmental conditions (sociocultural factors) which can affect human motivations and resources, and the motivating forces and resources themselves which cause the behaviors, and (d) suggest from a knowledge of probable causes how some specific behavior patterns could be changed.

5. That I, the learner, understand many of the physiological effects upon the human organism of commonly abused drugs by my ability to (a) develop a definition of the term "drugs" which would include the psychoactive agents of alcohol and tobacco, (b) identify commonly abused drugs and their immediate effects upon the human organism, (c) list various slang names of the commonly abused drugs, (d) identify variables which can account for differing physiological effects of different drugs, and (e) identify the different patterns of drug use and describe the interrelationships existing between these different use levels.

6. That I, the learner, develop the knowledge and understanding of the immediate effects and long-range consequences of drug abuse as shown by my ability to (a) relate the short-term and long-term consequences of breaking laws written to control drug abuse, (b) identify the probable short- and long-range consequences of specific drug behaviors, and (c) describe in probability terms the immediate and long-term effects of the different patterns of drug use.

7. That I, the learner, develop an understanding of the influence of one's life goals upon one's behavior as shown by my ability to (a) evaluate the consequences of drug abuse in relation to one's life goals, and (b) suggest alternatives other than drug use to reach one's short-term and long-range goals.

8. That I, the learner, develop an increased understanding of myself and my own life's goals as shown by the ability to (a) describe myself as I am and would like to be, (b) describe my own life's purpose, and (c) identify methods often used in developing one's standards in decision making.

9. That I, the learner, develop the ability to consider alternatives and their consequences (immediate and remote) and to select ways to work out my feelings that are consistent with my life purpose as shown by my ability to, when given a situation, describe the feelings involved, alternatives available and their consequences

and the decision which would be most consistent with my life's purpose.

10. That I, the learner, clarify for myself those ideals, attitudes, and ways of living which I value, as shown by the ability to determine what kinds of alternatives I would probably take when faced with conflict situations.

APPENDIX B

TREATMENT AND CONTROL GROUPS BY GRADE LEVEL

Grade	Experimental	Control
1	173	152
2	168	180
3	166	178
4	169	163
5	153	156
6	157	169
8	58	56
Senior High	888 (Fall) 774 (Spring)	482
Total	1932	1536

APPENDIX C

EVALUATION OF THE

DRUGS, ALCOHOL, AND TOBACCO CURRICULUM

GRADES 1 - 6

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Introduction

The Family Life Programs were designed to foster certain directional changes in students. It was expected that after becoming involved with the curricula, students would become more knowledgeable about drugs, alcohol, and tobacco; about human sexuality; and about aggression and violence. Concurrently, it was expected that the students would develop a causal approach or attitude with regard to their behavior. The causal approach has been described in other sections of this report.

The various curricula for the elementary and high school levels have been evaluated both formatively and summatively. The formative evaluation input consisted of teacher and student feedback and preliminary instrument development data. This information was used to revise the curricular programs and to refine the instruments.

The present concern is with the summative evaluation of a particular curriculum within a particular grade level, across all the schools involved.

The elementary Drugs, Alcohol, and Tobacco (D.A.T.) curricula were tried in six school systems. One curriculum was developed for each of the grades K through 6. It was decided not to obtain any kind of objective test measures at the kindergarten level because of the traditionally low reliabilities of such scores and because of the disproportionate amount of time that would have to be spent in giving individual tests. The lack of fine motor skills, the very short attention span, etc., that are characteristic of children at this grade level also precluded group testing.

The sampling procedure took the following form: within each school, the principal selected the teachers who were to teach the new program to their classes (i.e., the treatment classes). The principals were asked to make their selections on the basis of teachers' sympathies toward the program, those teachers who related well to children, etc. The principals also selected, within the same schools as the treatment classes, those teachers of corresponding grade level classes who the principals felt were similar to the teachers of the treatment classes. These became the control teachers and classes. Therefore, the selection procedure was based upon the subjective judgment of the principals. Random assignment to treatment or control groups of either students or teachers was not administratively feasible.

This type of quasi-experimental design is the Non-Equivalent Control Group Design. The main threats to the internal validity of this design are the alternative hypotheses of a selection-maturation interaction and regression. That is, in this kind of design any main effects may be explained by either or both of these alternative hypotheses, rather than by the effect of the treatment, if one is not aware of several safeguards. In the particular instance considered here, a selection-maturation inter-

action hypothesis does not appear to be tenable since the hypothesis would require that the gain from pre to post in the treatment class be of approximately the same magnitude as the pre-test difference between the treatment and control classes. The data clearly cannot support such an hypothesis. There is also no basis for expecting the maturation rates of the treatment and control classes to differ. Since the two classes were not selected with regard to pre-test scores, regression is not considered a threat to internal validity. Therefore, it can reasonably be assumed that if any effects are present in the data, they are the result of the treatment.

The program was taught to the treatment classes for about nine weeks. Grades 1 and 2 had thirty class periods of thirty minutes each. Grade 3 had thirty-five class periods of thirty minutes each. Grades 4, 5, and 6 had forty-five class periods of forty-five minutes each.

The differences among the schools were based upon their locations and the socio-economic status of the students' families. These differences were:

School A - a suburban school containing students from white, upper middle-class families.

School B - located in a small city and containing a mix of families of different races and economic levels.

School C - an inner-city school whose students come from families of different races and lower socio-economic status. There is a large transient population.

School D - same characteristics as School C.

School E - a city school whose students are in a transitional stage

from exclusively white, middle socio-economic status to mixed races of lower and middle socio-economic status.

School F - a) grades 1-3 and 6 is a parochial school whose students come from white, upper-middle socio-economic status families.

b) grades 4 and 5 is a suburban school containing students from white, middle socio-economic status families.

The students in the treatment and control classes were measured on knowledge of drugs, alcohol, and tobacco as contained in the curriculum. These knowledge tests were developed directly from the curricula, one test at each grade level, and consisted of true-false items. The tests were given both before and after the students were exposed to the new material. The items were read to the students in grades 1, 2, and 3. These students responded to the questions on specially designed answer sheets which contain happy and sad faces, thereby obviating the need for them to read.

In addition, the students were measured with regard to their understanding of the causal approach. The causality test contains multiple choice items. As with the knowledge tests, the items were read to the students in grades 1, 2, and 3. These students again used the faces answer sheet to indicate their responses.

Results

Two measuring instruments were used to gauge the effects of the Drugs, Alcohol, and Tobacco curriculum at Grade One. A ten-item, true-false format was used for the knowledge test. The items were developed directly from the curriculum. Preliminary data from one of the control groups indicates a test-retest reliability coefficient of .78. The twelve-item, multiple-choice causality test obtained a split-half reliability coefficient of .73 in a previous study. Each item correct on the causality test received a score of two.

It was hypothesized that the treatment classes would gain in knowledge and social causality, while the control classes would not show significant gains. Also, it was felt that the variability in the post-treatment classes would be less than in the post-control classes.

The results of the knowledge test are displayed in Table 1. The "t" statistics were calculated on the pre- and post-treatment means and on the pre- and post-control means.

Within School A, the treatment class showed a significant increase in mean score from the pre-test to the post-test. At the same time, the control class pre- and post-means were not significantly different from each other; thereby indicating that a gain in drug knowledge, as measured by this instrument, did occur in the class that used the D.A.T. curriculum. Similar results were obtained in Schools B, C, E, and F. The control class in School D showed a significant mean gain in knowledge from pre-test to post-test, as did the treatment class. All of the treatment classes made significant gains in mean knowledge score, while four of the five control classes

showed no significant differences in mean knowledge score.

The variability of a distribution of scores is a measure of the spread of the scores around the mean of the distribution. It would seem logical to expect the variability of scores of a group receiving a treatment to become less than the variability in a group which is not undergoing a treatment. One would expect that at the end of a period of treatment, a group which has received the treatment would be more homogeneous than a group which has not received the treatment. The post-condition standard deviations in Table 1 indicate that the treatment variance was less than the control variance in each of the six schools even though five of the six pre-condition treatment variances were greater than the corresponding control variances.

TABLE 1. Knowledge Test Results
for Grade One

School	Treatment / Control	pre			post			t
		n	$\bar{x}$	sd	n	$\bar{x}$	sd	
A	T	27	8.33	.92	27	9.41	.57	5.09*
	C	17	9.35	.59	17	9.29	.84	-.23
B	T	30	7.30	1.42	28	8.41	.87	3.50*
	C	24	7.47	1.08	23	8.04	2.03	1.18
C	T	30	6.96	1.86	29	8.40	.94	3.67*
	C	27	7.89	1.64	27	7.10	1.72	-1.69
D	T	20	8.30	.92	20	9.36	.68	4.04*
	C	19	8.42	.77	17	9.00	.74	2.23*
E	T	34	7.70	1.02	34	8.92	.76	5.51*
	C	33	7.42	1.28	33	7.33	1.34	-.27
F	T	32	7.84	1.21	31	9.04	.90	4.38*
	C	31	8.19	1.00	28	8.04	1.06	-.55

* significant at .05

The results of the causality test are presented in Table 2. The pre- and post-means of both treatment and control classes were compared with the "t" statistic.

The treatment class in Schools A, D, and E showed significant increases in mean causality score from the pre-test to the post-test, while the control class in each of these schools did not increase in mean causality score. In Schools B, C, and F, however, the increase in treatment class means did not reach significance, although they were greater than those of the corresponding control classes.

With regard to the variability of the score distributions, Table 2 indicates that the post-condition standard deviations of the treatment classes were less than the standard deviations of the corresponding control classes in five of the six schools. However, in one of these five schools, School B, the pre-condition standard deviation of the treatment class was less than the standard deviation of the control class.

TABLE 2. Causality Test Results
for Grade One

School	Treatment / Control	pre			post			t
		n	$\bar{x}$	sd	n	$\bar{x}$	sd	
A	T	28	10.44	1.38	28	11.51	1.27	2.96*
	C	17	10.48	1.68	17	10.95	.96	.97
B	T	28	8.19	1.47	26	8.61	.98	1.20
	C	23	8.47	1.56	22	8.61	1.99	.26
C	T	29	9.76	1.51	28	10.04	1.18	.76
	C	27	9.76	1.49	24	9.82	1.75	.13
D	T	20	9.88	1.58	20	11.26	1.44	2.81*
	C	19	10.13	1.16	17	10.26	1.70	.26
E	T	34	8.42	1.51	34	9.63	1.27	3.52*
	C	33	9.49	1.45	33	9.18	1.56	-.82
F	T	32	9.42	1.63	31	10.31	1.09	.10
	C	31	9.89	1.48	28	10.22	1.53	-.11

* significant at .05

Conclusions

Although random selection and random assignment of the first-grade students was not possible, the previously mentioned threats of selection-maturation interaction and regression to the internal validity of this study were seen to have a minimal effect, if any, upon the data.

The data presented in Table 1 indicate that the classes which were exposed to the D.A.T. curriculum gained in knowledge of drugs, alcohol, and tobacco in relation to the classes which did not explore the D.A.T. curriculum. Only in School D, an inner-city school, did both treatment and control classes show significant gains in knowledge. Perhaps there is a high degree of communication among the students, between the two classes, or between the two teachers involved. In any case, significant gains in knowledge were achieved by students from inner-city schools, suburban students, small-city students, and by students ranging from lower to upper-middle socio-economic status.

Table 2 shows that three of the treatment classes became more causal than the control classes. The other three treatment classes showed gains in causality greater than their respective control classes, but the gains were not enough to be considered statistically significant. It is again interesting to note that the classes which showed significant gains contained students from the suburbs and the inner-city. Also, the socio-economic status ranged from lower to upper-middle.

Combining the knowledge test results with the causality test results, it is clear that the treatment classes had less variation in test scores than the control classes. This was true for eleven of the twelve comparisons at this grade level.

The expectation that the treatment would affect the variability of scores toward greater homogeneity seems to be born out at the first grade level.

The curriculum appears to be effective in terms of knowledge and causality scores with first-grade students from a wide range of locales and socio-economic conditions.

Results

Two instruments were used to gauge the effects of the Drugs, Alcohol, and Tobacco curriculum at Grade Two. A thirteen-item, true-false format was used for the knowledge test. The items were developed directly from the curriculum. Preliminary data from one of the control groups indicates a test-retest reliability coefficient of .83. The twelve-item, multiple-choice causality test achieved a split-half reliability coefficient of .73 in a previous study. A score of two was given for each correct item.

It was hypothesized that the treatment classes would gain in knowledge and social causality while the control classes would not show significant gains. It was also felt that the variability in the post-treatment classes would be less than in the post-control classes.

The results of the knowledge test are displayed in Table 3. The "t" statistics were calculated on the pre- and post-treatment means and on the pre- and post-control means.

The treatment classes of Schools C, D, E, and F showed a significant increase in mean knowledge test score from pre- to post-test, while the control classes did not. Both the treatment and control classes in School A achieved significant increases in mean knowledge test score from pre- to post-test. However, the mean knowledge test scores for the treatment and the control classes of School B did not show significant gains.

The variability of scores was expected to be smaller in the post-treatment distribution than in the post-control distribution. It was felt that a group which has received a treatment would be more homogeneous than a group which has not received

a treatment. The post-condition standard deviations reported in Table 3 indicate that the treatment class variance was smaller than the control class variance in each of the six schools despite the larger variance in five of six treatment classes in the pre-condition.

The results of the causality test are shown in Table 4. The "t" statistics were calculated on the pre- and post-treatment means and on the pre- and post-control means.

Significant increases were obtained by the treatment classes in Schools A, B, E, and F, while the corresponding control classes did not show significant increases. In Schools C and D, the treatment class means did not increase enough to reach significance, but they were greater than their respective control classes.

TABLE 3. Knowledge Test Results for Grade Two

School	Treatment / Control	pre			post			t
		n	$\bar{x}$	sd	n	$\bar{x}$	sd	
A	T	26	6.96	1.71	24	8.78	1.11	4.33*
	C	25	7.16	1.03	25	8.47	1.30	3.87*
B	T	25	6.72	1.77	24	6.93	1.31	.46
	C	25	6.78	1.53	24	6.76	1.74	-.04
C	T	18	6.83	1.50	18	8.50	1.24	3.54*
	C	31	7.06	1.58	31	7.00	1.89	-.13
D	T	26	7.00	1.83	23	8.41	1.42	2.92*
	C	25	7.08	1.71	24	8.11	2.22	1.79
E	T	36	6.48	1.78	35	7.65	1.67	2.81*
	C	38	6.53	1.54	36	6.45	1.99	-.19
F	T	37	6.89	1.68	36	8.23	1.62	3.42*
	C	36	6.96	1.64	36	7.27	1.84	.74

* significant at .05

TABLE 4. Causality Test Results
for Grade Two

School	Treatment / Control	pre			post			t
		n	$\bar{x}$	sd	n	$\bar{x}$	sd	
A	T	27	8.80	2.59	25	10.37	1.62	2.55*
	C	26	10.08	1.77	25	10.36	2.03	.52
B	T	22	9.07	1.68	22	10.13	1.18	2.37*
	C	22	9.56	1.85	22	9.69	1.94	.22
C	T	20	9.53	1.97	18	10.67	1.44	1.96
	C	29	9.70	1.93	28	9.78	2.40	.14
D	T	26	9.19	1.80	23	9.50	1.40	.65
	C	25	9.37	1.56	24	9.23	1.65	-.30
E	T	36	8.57	1.28	35	10.00	1.19	4.80*
	C	38	8.88	1.18	36	9.12	1.06	.91
F	T	37	7.72	1.71	36	9.14	.88	4.38*
	C	36	8.80	2.02	36	9.01	2.14	.42

* significant at .05

Conclusions

Although random selection and random assignment of the second-grade students was not possible, the previously mentioned threats of selection-maturation interaction and regression to the internal validity of this study were seen to have a minimal effect, if any, upon the data.

The data presented in Table 3 indicate that the classes which were exposed to the D.A.T. curriculum gained in knowledge of drugs, alcohol, and tobacco in relation to the classes which did not explore the D.A.T. curriculum. The treatment class of School B did not show a significant gain in mean score, although the post-treatment mean was greater than the pre-treatment mean. At the same time, the post-control mean was less than the pre-control mean in School B. While School B is a small city school having a population of students from different races and economic levels, significant gains were achieved by second-grade students from inner-city and suburban schools, and by students who ranged in socio-economic status from lower to upper-middle.

The causality test data in Table 4 show that the treatment classes became more causal than the control classes in four schools. The treatment classes of the remaining two schools had mean gains greater than their corresponding control classes; indeed one control class showed a mean loss from pre- to post-condition, although the gains were not enough to reach significance. The students who composed the classes which showed significant mean gains were from a population of suburban, small city, inner-city, and lower to upper-middle socio-economic status.

The variability of the post-condition treatment test scores for both the knowledge and causality tests was less for eleven of the twelve comparisons at grade two. In only

three instances was the pre-treatment variability less than the pre-control variability. These data seem to indicate that the treatment does affect the variability of scores in the direction of greater homogeneity, as hypothesized.

The curriculum appears to be effective with regard to knowledge and causality scores with second-grade students from a wide range of locales and socio-economic conditions.

Results

The effects of the Drugs, Alcohol, and Tobacco curriculum at Grade Three were measured with two instruments. A fifteen-item, true-false format was used for the knowledge test. The items were developed directly from the curriculum. Preliminary data from one of the control classes indicates a test-retest reliability coefficient of .83. The twelve-item, multiple-choice causality test achieved a split-half reliability coefficient of .73 in a previous study. Each correct item on the causality test received a score of two.

It was hypothesized that the treatment classes would gain in knowledge and social causality, while the control classes would not show significant gains. Also, it was felt that the variability in the post-treatment classes would be less than in the post-control classes.

Results of the knowledge test are exhibited in Table 5. The "t" statistics were calculated on the pre- and post-treatment means and on the pre- and post-control means.

The treatment class in School A showed a significant gain in mean score from the pre-test to the post-test. At the same time, the control class pre- and post-means were not significantly different from each other. These results indicate that a gain in drug knowledge, as measured by this instrument, did occur in the class that was exposed to the D.A.T. curriculum. Similar results were obtained in Schools D, E, and F. The control class in School C showed a significant mean gain in knowledge from pre-test to post-test, as did the treatment class. The treatment class in School B did show a mean gain that did not reach significance, while there was a mean decrease in the control class.

The variability of a distribution of scores is a measure of the spread of the scores around the mean of the distribution. It would seem logical to expect the variability of scores of a group receiving a treatment to become less than the variability in a group which is not undergoing treatment. The expectation would be that at the end of a period of treatment, the scores of a group which has received the treatment would be more homogeneous than the scores of a group which has not received the treatment. The post-condition standard deviations in Table 5 indicate that the treatment variance was less than the control variance in each of the six schools even though four of the six pre-condition treatment variances were greater than the corresponding control variances.

The results of the causality test are displayed in Table 6. The pre- and post-means of both the treatment classes and the control classes were compared with the "t" statistics.

The treatment class in Schools A, B, and E made significant increases in mean causality score from the pre-test to the post-test, while the control class in each of these schools did not increase in mean causality score. In Schools C, D, and F the increases in mean causality score of the treatment classes did not reach significance, although they were greater than those of the corresponding control classes. Indeed, the control classes in Schools D and F showed a mean decrease in causality between the pre- and post-conditions.

Table 6 also shows that the variability in the post-treatment scores was less than the variability in the post control scores in five of the six schools. However, the pre-treatment variability was less than the pre-control variability in two of these five schools (i.e., Schools A and B).

TABLE 5. Knowledge Test Results for Grade Three

School	Treatment Control	pre n	pre $\bar{x}$	pre sd	post n	post $\bar{x}$	post sd	t
A	T	27	11.33	2.17	25	13.44	.92	4.41*
	C	24	11.70	1.52	23	12.08	1.79	.77
B	T	22	10.32	1.89	22	11.21	1.48	1.70
	C	22	10.91	1.90	22	10.78	2.01	-.22
C	T	11	5.91	1.64	11	11.09	1.50	7.37*
	C	32	6.38	1.66	30	8.50	1.86	4.66*
D	T	34	9.91	1.77	30	12.65	1.09	7.14*
	C	34	11.78	1.51	30	10.68	1.72	-2.74
E	T	35	10.26	1.88	35	12.55	1.30	5.84*
	C	35	10.90	1.48	34	11.32	1.67	1.09
F	T	37	9.55	1.73	36	13.15	1.29	9.92*
	C	31	9.89	1.56	31	10.46	2.03	1.22

* significant at .05

TABLE 6. Causality Test Results for Grade Three

School	Treatment Control	pre n	pre $\bar{x}$	pre sd	post n	post $\bar{x}$	post sd	t
A	T	27	8.16	1.06	26	10.87	2.19	5.66*
	C	24	10.66	1.70	24	10.79	2.50	.21
B	T	16	8.06	1.96	16	9.63	1.42	2.51*
	C	18	8.61	2.03	14	9.53	2.01	1.24
C	T	11	8.87	1.98	11	10.07	1.44	1.55
	C	30	9.58	1.76	30	9.78	2.05	.40
D	T	34	10.52	1.84	30	11.43	1.78	1.97
	C	34	10.83	1.30	33	10.81	1.48	-.06
E	T	35	8.37	1.23	35	9.25	1.02	3.21*
	C	35	8.85	1.21	34	8.58	1.54	-.80
F	T	37	8.64	1.81	36	9.28	1.57	1.59
	C	32	9.16	2.60	31	8.95	2.83	-.30

* significant at .05

Conclusions

Although random selection and random assignment of the third-grade students was not possible, the previously mentioned threats of selection-maturation interaction and regression to the internal validity of this study were seen to have a minimal effect upon the data.

The data presented in Table 5 indicate that four of the six classes that were exposed to the D.A.T. curriculum gained in knowledge of drugs, alcohol, and tobacco when compared to classes that did not explore the D.A.T. curriculum. The treatment class in School B did not have a mean gain large enough to reach significance, but the control class showed a mean loss from pre to post. In School C, an inner-city school, both treatment and control classes exhibited significant gains in knowledge. The data indicate that significant gains in knowledge were achieved by suburban, inner-city, and large-city students whose socio-economic status ranged from lower to upper-middle.

As seen in Table 6, three of the treatment classes became more causal than their respective control classes. The remaining three treatment classes all showed greater gains in causality than the control classes, but the gains were not of such magnitude so as to reach statistical significance. The causality gains were evidenced by students from suburban, small-city, and large-city school systems. The socio-economic status of these students ranged from lower class to upper-middle class.

When the knowledge test results were combined with the causality test results, eleven of the twelve comparisons regarding variability indicated that the post-treatment score distributions were less variable than the post-control score distributions. This result is given more substance when the combined test results also show that of the

eleven comparisons that were in the hypothesized direction, seven pre-treatment variances were greater than their corresponding pre-control variances. Therefore, these third grade results are in the expected direction of greater homogeneity of scores in the treatment classes.

The curriculum appears to be effective in terms of knowledge and causality scores with third-grade students from differing locales and a wide range of socio-economic conditions.

Grade Four

Results

Two measuring instruments were used to gauge the effects of the Drugs, Alcohol, and Tobacco curriculum at Grade Four. A sixteen-item true-false format was used for the knowledge test. The items were developed directly from the curriculum. Preliminary data from one of the control groups indicates a test-retest reliability coefficient of .80. The twelve-item multiple-choice causality test obtained a split-half reliability coefficient of .73 in a previous study. Each correct item on the causality test received a score of two.

It was hypothesized that the treatment classes would gain in knowledge and social causality, while the control classes would not show significant gains. It was also expected that the variability of the post-treatment class score distributions would be less than the variability of the post-control class score distributions.

The results of the knowledge test are displayed in Table 7. The "t" statistics were calculated on the pre- and post-treatment means and on the pre- and post-control means.

The treatment class in School A showed a significant increase in mean knowledge score from the pre-test to the post-test. At the same time, the control class pre- and post-knowledge test means were not significantly different from each other. This indicates that a gain in drug knowledge, as measured by this instrument, did occur in the class that used the D.A.T. curriculum. Similar results were obtained in Schools C, D, and F. The control class in Schools B and E exhibited a significant mean gain in knowledge from pre-test to post-test, as did the treatment classes. All of the treatment classes made significant gains in mean knowledge score, while four of the

five control classes showed no significant differences in mean knowledge score.

TABLE 7. Knowledge Test Results
for Grade Four

School	Treatment / Control	pre			post			t
		n	$\bar{x}$	sd	n	$\bar{x}$	sd	
A	T	26	9.39	1.83	24	13.62	1.24	9.80*
	C	28	9.78	1.92	27	10.14	2.03	.66
B	T	27	9.15	1.88	26	13.81	.91	11.20*
	C	30	9.57	1.65	30	11.33	2.38	3.27*
C	T	30	9.60	2.52	27	14.78	.87	9.97*
	C	25	10.63	2.02	24	10.90	2.22	.44
D	T	27	10.00	1.95	27	12.16	1.63	4.33*
	C	26	10.58	1.94	26	10.44	2.04	-.25
E	T	37	9.41	2.22	32	12.73	1.71	6.78*
	C	31	9.43	1.86	29	10.75	2.17	2.49*
F	T	22	9.73	2.03	20	14.62	1.57	8.46*
	C	23	10.91	1.88	23	10.78	1.93	-.23

* significant at .05

The variability of a distribution of scores is a measure of the spread of the scores around the mean of the distribution. It would seem logical to expect the variability of scores of a group receiving a treatment to become less than the variability in a group that is not undergoing a treatment. It would be expected that at the end of a period of treatment, a group which has received the treatment would be more homogeneous than a group that has not received the treatment. The post-condition standard deviations in Table 7 indicate that the treatment variance was less than the control variance in each of the six schools, even though five of the six pre-condition treatment variances were greater than their corresponding control variances.

The results of the causality test are presented in Table 8. The pre- and post-means of both treatment and control classes were compared with the "t" statistic.

The treatment class in Schools A, C, D, and E showed significant increases in mean causality score from the pre-test to the post-test, while the control class in each of these schools did not increase in mean causality score. In Schools B and F, however, the increase in treatment class means did not reach significance although they were greater than those of the corresponding control classes.

TABLE 8. Causality Test Results
for Grade Four

School	Treatment / Control	pre			post			t
		n	$\bar{x}$	sd	n	$\bar{x}$	sd	
A	T	29	13.78	2.80	27	16.29	2.33	3.57*
	C	29	15.36	2.68	28	15.41	3.24	.06
B	T	27	12.41	3.05	26	12.95	2.28	.71
	C	29	12.56	3.04	30	12.92	2.44	.49
C	T	29	12.22	3.10	27	16.14	2.45	5.13*
	C	25	13.74	2.58	24	15.09	3.26	1.58
D	T	27	14.23	2.98	27	15.80	2.33	2.12*
	C	26	14.42	2.56	26	15.68	3.05	1.58
E	T	37	12.31	2.45	32	14.35	1.96	3.72*
	C	31	12.34	2.88	29	13.42	3.13	1.37
F	T	22	14.88	2.80	20	16.33	2.21	1.80
	C	23	14.95	1.98	23	14.86	2.74	-.12

* significant at .05

With regard to the variability of the score distributions, Table 8 indicates that the post-condition standard deviations of the treatment classes were less than the standard deviations of their respective control classes in each of the six schools.

However, in School E the pre-condition standard deviation of the treatment class was less than the standard deviation of the control class.

Conclusions

Although random selection and random assignment of the fourth-grade students was not possible, the previously mentioned threats of selection-maturation interaction and regression to the internal validity of this study were seen to have a minimal effect upon the data.

The data presented in Table 7 indicate that the classes that were exposed to the D.A.T. curriculum gained in knowledge of drugs, alcohol, and tobacco in relation to the classes that did not explore the D.A.T. curriculum. Only in School B, located in a small city and containing a mix of families of different races and economic levels, and in School E, a city school containing mixed races from lower to middle economic levels, did both treatment and control classes show significant gains in knowledge. Perhaps there is a high degree of communication between the two teachers or among the students in the two classes. Nevertheless, significant gains in knowledge were achieved by students from the inner-city and the suburbs, and these students ranged from lower to upper-middle socio-economic status.

Table 8 shows that four of the treatment classes became more causal than the control classes. The other two treatment classes showed gains in causality greater than their respective control classes, but the gains were not great enough to be considered statistically significant. Again, it is interesting to note that the classes that showed significant gains contained students from the suburbs and the inner-city. In addition, the socio-economic status of these students ranged from lower to upper-middle.

When the knowledge test results are combined with the causality test results, it is clear that the treatment classes had less variation in the test scores than the control

classes. This was true for all of the twelve comparisons at this grade level. The expectation that the treatment would affect the variability of scores toward greater homogeneity seems to be borne out at the fourth-grade level.

The curriculum appears to be effective in terms of knowledge and causality scores with fourth-grade students from a wide range of locales and socio-economic conditions.

Results

The effects of the Drugs, Alcohol, and Tobacco curriculum at Grade Five were measured with two instruments. A twenty-two item, true-false format was used for the knowledge test. The items were developed directly from the curriculum. Preliminary data from one of the control classes indicates a test-retest reliability coefficient of .79. The twelve-item, multiple-choice causality test achieved a split-half reliability coefficient of .73 in a previous study. Each correct item on the causality test received a score of two.

It was hypothesized that the treatment classes would gain in knowledge and social causality, while the control classes would not show significant gains. Also, it was felt that the variability in the post-treatment classes would be less than in the post-control classes.

Results of the knowledge test are exhibited in Table 9. The "t" statistics were calculated on the pre- and post-treatment means and on the pre- and post-control means.

The treatment class in School A showed a significant gain in mean score from the pre-test to the post-test. At the same time, the control class pre- and post-means were not significantly different from each other. These results indicate that a gain in drug knowledge, as measured by this instrument, did occur in the class that was exposed to the D.A.T. curriculum. Similar results were obtained in Schools B, C, E, and F. The control class in School C showed a significant mean gain in knowledge from pre-to post-test, as did the treatment class. All of the treatment classes made significant gains in mean knowledge score, while four of the five control classes showed no significant differences in mean knowledge score.

TABLE 9. Knowledge Test Results
for Grade Five

School	Treatment / Control	pre			post			t
		n	$\bar{x}$	sd	n	$\bar{x}$	sd	
A	T	29	15.00	1.77	29	16.85	2.20	3.47*
	C	29	15.38	2.03	29	15.24	2.04	- .26
B	T	27	13.68	1.89	25	14.88	1.76	2.32*
	C	25	13.74	2.48	21	14.11	2.59	.48
C	T	21	13.04	2.47	20	15.57	1.83	3.62*
	C	26	14.06	2.38	26	14.76	2.63	.99
D	T	21	12.91	2.56	21	15.21	1.99	3.17*
	C	22	13.19	2.23	20	14.67	2.22	2.10*
E	T	32	12.86	2.37	28	15.72	1.94	4.98*
	C	34	14.04	2.44	28	13.96	3.03	- .11
F	T	23	13.83	2.23	22	16.19	2.03	3.62*
	C	23	13.91	2.08	22	13.74	2.48	- .24

* significant at .05

The variability of a distribution of scores is a measure of the spread of the scores around the mean of the distribution. It would seem logical to expect the variability of scores of a group receiving a treatment to become less than the variability in a group which is not undergoing treatment. The expectation would be that at the end of a period of treatment the scores of a group which has received the treatment would be more homogeneous than the scores of a group which has not received the treatment. The post-condition standard deviations in Table 9 indicate that the treatment variance was less than the control variance in five of the six schools (School A control variance less than treatment variance) even though three of the five pre-condition treatment variances were greater than the corresponding control variances (i.e., in Schools C, D, and F).

The results of the causality test are displayed in Table 10. The pre- and post-means of both the treatment classes and the control classes were compared with the "t" statistics.

TABLE 10. Causality Test Results for Grade Five

School	Treatment / Control	pre			post			t
		n	$\bar{x}$	sd	n	$\bar{x}$	sd	
A	T	31	16.77	2.63	27	18.24	2.29	2.21*
	C	31	17.21	2.18	30	17.74	3.50	.70
B	T	24	12.15	2.96	24	13.53	2.48	1.71
	C	25	12.75	3.00	25	13.30	3.98	.54
C	T	21	12.80	2.61	20	14.80	2.47	2.46*
	C	26	12.90	2.57	26	13.69	3.17	.97
D	T	21	14.52	2.99	21	15.74	2.01	1.51
	C	22	15.08	2.62	20	15.73	2.06	.87
E	T	32	11.75	2.59	28	15.12	2.20	5.30*
	C	34	13.20	2.79	28	12.34	3.16	- 1.12
F	T	23	14.32	3.29	22	16.81	2.35	2.84*
	C	23	15.75	2.62	22	15.60	2.76	- .18

* significant at .05

The treatment class in Schools A, C, E, and F made significant increases in mean causality score from the pre-test to the post-test, while the control class in each of these schools did not increase in mean causality score. In Schools B and D the increases in mean causality score of the treatment classes did not reach significance although they were greater than those of the corresponding control classes.

Table 10 also shows that the variability in the post-treatment scores was less than the variability in the post-control scores in each of the six schools. However,

the pre-treatment variability was less than the pre-control variability in two of the schools (i.e., Schools B and E).

Conclusions

Although random selection and random assignment of the fifth-grade students was not possible, the previously mentioned threats of selection-maturation interaction and regression to the internal validity of this study were seen to have a minimal effect upon the data.

The data presented in Table 9 indicate that five of the six classes which were exposed to the D.A.T. curriculum gained in knowledge of drugs, alcohol, and tobacco when compared to classes which did not explore the D.A.T. curriculum. In School D, an inner-city school whose students come from families of different races and lower socio-economic status, both treatment and control classes exhibited significant gains in knowledge. The data indicate that significant gains in knowledge were achieved by suburban, small city, inner-city, and large city students whose socio-economic status ranged from lower to upper middle.

As seen in Table 10, four of the treatment classes became more causal than their respective control classes. The remaining two treatment classes all showed greater gains in causality than the control classes, but the gains were not of such magnitude so as to reach statistical significance. The causality gains were evidenced by students from suburban, inner-city, and large-city school systems. The socio-economic status of these students ranged from lower class to upper-middle class.

When the knowledge test results were combined with the causality test results, eleven of the twelve comparisons regarding variability indicated that the post-treatment score distributions were less variable than the post-control score distributions. This result is given more weight with the consideration that the

combined results also show that of the eleven comparisons that were in the hypothesized direction, seven pre-treatment variances were greater than their corresponding pre-control variances. Therefore, these fifth-grade results are in the expected direction of greater homogeneity of scores in the treatment classes.

The curriculum appears to be effective in terms of knowledge and causality scores with fifth-grade students from differing locales and a wide range of socio-economic conditions.

Results

Two measuring instruments were used to gauge the effects of the Drugs, Alcohol, and Tobacco curriculum at Grade Six. A twenty-two item, true-false format was used for the knowledge test. The items were developed directly from the curriculum. Preliminary data from one of the control groups indicates a test-retest reliability coefficient of .81. The twelve-item, multiple-choice causality test obtained a split-half reliability coefficient of .73 in a previous study. Each correct item on the causality test received a score of two.

It was hypothesized that the treatment classes would gain in knowledge and social causality, while the control classes would not show significant gains. It was also expected that the variability of the post-treatment class score distribution would be less than the variability of the post-control class score distributions.

The results of the knowledge test are displayed in Table 11. The "t" statistics were calculated on the pre- and post-treatment means and on the pre- and post-control means.

The treatment class in School A showed a significant increase in mean knowledge score from the pre-test to the post-test. At the same time, the control class pre- and post-knowledge test means were not significantly different from each other. This indicates that a gain in drug knowledge, as measured by this instrument, did occur in the class that used the D.A.T. curriculum. Similar results were obtained in Schools B, D, E, and F. The mean knowledge test score of the treatment class in School C showed a non-significant increase from pre to post, as did the control class. Five of the six treatment classes made significant gains in mean knowledge

score, while each of their respective control classes did not make significant gains in mean knowledge score.

TABLE 11. Knowledge Test Results for Grade Six

School	Treatment / Control	pre			post			t
		n	$\bar{x}$	sd	n	$\bar{x}$	sd	
A	T	27	15.30	2.09	27	17.14	1.94	3.29*
	C	35	15.64	2.13	33	16.32	1.92	1.36
B	T	21	12.71	2.12	21	15.54	1.90	4.44*
	C	24	14.10	2.02	23	15.31	2.10	1.97
C	T	24	14.12	2.49	22	15.24	1.65	1.74
	C	24	14.75	2.49	24	14.96	2.23	.30
D	T	24	14.62	2.78	24	16.12	2.19	2.03*
	C	24	15.00	2.38	24	14.75	2.22	-.37
E	T	27	14.05	2.53	23	16.26	1.61	3.54*
	C	28	14.59	2.11	23	14.93	2.17	.55
F	T	34	15.41	1.94	34	16.38	1.89	2.06*
	C	34	15.68	2.08	32	15.82	2.36	.25

* significant at .05

The variability of a distribution of scores is a measure of the spread of the scores around the mean of the distribution. It would seem logical to expect the variability of scores of a group receiving a treatment to become less than the variability in a group which is not undergoing a treatment. It would be expected that at the end of a period of treatment, a group which has received the treatment would be more homogeneous than a group which has not received the treatment. The post-condition standard deviations in Table 11 indicate that the treatment variance was less than the control variance in five of the six schools, even though three of the

pre-condition treatment variances were greater than their corresponding control variances and the pre-variances were equal in one instance.

The results of the causality test are presented in Table 12. The pre- and post-means of both treatment and control classes were compared with the "t" statistics.

TABLE 12. Causality Test Results for Grade Six

School	Treatment / Control	pre			post			t
		n	$\bar{x}$	sd	n	$\bar{x}$	sd	
A	T	35	15.55	2.04	35	18.09	2.01	5.17*
	C	34	15.63	2.90	33	15.95	2.99	.44
B	T	20	12.05	2.77	19	14.29	2.22	2.70*
	C	23	13.39	2.64	23	13.96	2.99	.67
C	T	24	13.01	3.73	21	14.69	3.64	1.49
	C	24	13.96	3.02	23	14.37	3.08	.45
D	T	24	15.64	2.73	24	17.24	2.27	2.16*
	C	24	15.69	2.88	24	15.82	3.58	.14
E	T	27	11.86	2.48	23	13.98	1.78	3.35*
	C	28	13.16	1.87	23	12.13	2.29	- 1.73
F	T	34	14.80	2.72	34	16.37	1.84	2.75*
	C	34	15.49	2.89	32	15.81	3.12	.42

* significant at .05

The treatment class in Schools A, B, D, E, and F showed significant increases in mean causality score from the pre-test to the post-test, while the control class in each of these schools did not increase in mean causality score. In School C, however, the increase in treatment class mean did not reach significance although it was greater than the increase shown by the control class.

With regard to the variability of the causality score distributions, Table 12 indicates that the post-condition standard deviations of the treatment classes were less than the standard deviations of their respective control classes in five of the six schools. However, in Schools A, D, and E the pre-condition standard deviations of the treatment classes were less than the standard deviations of the control classes.

Conclusions

Although random selection and random assignment of the sixth-grade students was not possible, the previously mentioned threats of selection-maturation interaction and regression to the internal validity of this study were seen to have a minimal effect upon the data.

The data presented in Table 11 indicate that the classes which were exposed to the D.A.T. curriculum gained in knowledge of drugs, alcohol, and tobacco in relation to the classes which did not explore the D.A.T. curriculum. Only in School C, an inner-city school whose students come from families that are largely transient and of different races and lower socio-economic status, was the treatment class mean gain in knowledge not enough to reach significance. However, this did not occur in School D, whose population has characteristics similar to the population of School C. Significant gains in knowledge were achieved by students from the suburbs, a small city, the inner-city, and a large city. These students ranged in socio-economic status from lower to upper-middle.

Table 12 shows that five of the treatment classes became more causal than the control classes. The remaining treatment class showed gains in causality greater than its control class, but the mean increase was not large enough to be considered statistically significant. It is interesting to note that the classes that showed significant gains contained students from the suburbs, a small city, the inner-city, and a large city. In addition, the socio-economic status of these students ranged from lower to upper-middle.

When the knowledge test results are combined with the causality test results,

it is clear that in the post-condition the treatment classes exhibited less variation in test scores than the control classes. This was true for ten of the twelve comparisons at this grade level. The expectation that the treatment would affect the variability of scores toward greater homogeneity seems to be borne out at the sixth-grade level.

The curriculum appears to be effective in terms of knowledge and causality scores with sixth-grade students from a wide range of locales and socio-economic conditions.

Summary

Results

A. Knowledge

In addition to reporting the results and conclusions at each grade level, a summary of results and conclusions is presented in order to provide a description encompassing all of the grade levels and all of the schools that were involved in the study.

A summary of knowledge test results is displayed in Table 13. The expectation in each school-grade cell was that there would be a significant treatment effect (at the .05 level) and no control effect. This occurred in 75 percent (27 of the 36 cells) of the comparisons. For example, in School A-Grade 3 (cell A3) the treatment class showed a gain in knowledge test mean score, from pre- to post-condition, that was significant at the .001 level. The probability of obtaining a mean gain of this magnitude, alone, is one out of one thousand. Conversely, there was a gain in the knowledge test mean score, from pre- to post-condition, in the control class, but the probability of obtaining this specific mean gain by chance, alone, is about twenty-five out of one hundred. Therefore, it was decided to deem this small a gain as likely to occur by chance alone (i.e., not statistically significant).

These impressive findings (i.e., 75 percent of all school-grade combinations showed results in the hypothesized direction) are tempered with the additional results that three of the thirty-six cells, or 8 percent of the cells, showed no significant effects in both treatment and control classes (i.e., cells B2, B3, and C6). Also, six cells, or 17 percent, contain significant effects in both treatment and control classes (cells A2, B4, C3, D1, D5, and E4). The most damaging result to the hypothesis would have

been a significant gain in the control class with a corresponding non-significant gain in the treatment class. This did not occur.

TABLE 13. Summary of Significant Gains in Knowledge Test Scores From Pre- to Post-Conditions

School	Treatment / Control	Grades 1	2	3	4	5	6
A	T	***	***	***	***	***	***
	C		***				
B	T	***			***	*	***
	C				***		
C	T	***	***	***	***	***	
	C			***			
D	T	***	**	***	***	**	*
	C	*				*	
E	T	***	**	***	***	***	***
	C				**		
F	T	***	***	***	***	***	*
	C						

* significant at .05
** significant at .01
*** significant at .001

The summary of changes in variability of knowledge test scores, from pre- to post-conditions, is presented in Table 14. It was expected that the scores would show less variation in the post-condition than in the pre-condition of the treatment class (L) and the control class would show greater variation in the post-condition than in the pre-condition (G). Twenty-nine of the thirty-six comparisons (80 percent) have the hypothesized pattern. While the most damaging result (i.e., greater variation in the post-condition than in the pre-condition of the treatment class scores, and less variation in the post-condition than in the pre-condition of the control class scores)

did not occur, six comparisons (17 percent) indicated less variation in the post-scores than in the pre-scores for both the treatment and control classes (i.e., cells A6, C6, D1, D5, D6, and F5). In addition, cell A5 shows that both treatment and control classes exhibited greater variation in the post-condition than in the pre-condition.

TABLE 14. Summary of Changes in Variability of Knowledge Test Scores From Pre- to Post-Conditions

School	Treatment / Control	Grades					
		1	2	3	4	5	6
A	T	L	L	L	L	G	L
	C	G	G	G	G	G	L
B	T	L	L	L	L	L	L
	C	G	G	G	G	G	G
C	T	L	L	L	L	L	L
	C	G	G	G	G	G	L
D	T	L	L	L	L	L	L
	C	L	G	G	G	L	L
E	T	L	L	L	L	L	L
	C	G	G	G	G	G	G
F	T	L	L	L	L	L	L
	C	G	G	G	G	L	G

L = less variation of scores in the post-condition than in the pre-condition
G = greater variation of scores in the post-condition than in the pre-condition

B. Causality

The results of the social causality test for each school-grade combination are shown in Table 15. As with the knowledge test, the expectation was that there would be a significant treatment effect (at the .05 level) and no control effect. This occurred in 64 percent (23 of the 36 cells) of the comparisons. For example, in School A-

Grade 1 (cell A1) the treatment class showed a gain in social causality test mean score, from pre- to post-condition, that was significant at the .01 level (i.e., the probability of obtaining a mean gain of this magnitude, by chance alone, is one out of one hundred). In addition, there was a gain in social causality test mean score, from pre- to post-condition, in the control class, but the probability of obtaining this specific mean gain by chance alone is between eighty and eighty-five out of one hundred. Therefore, it was decided to consider a gain this small as likely to occur by chance alone and thus not statistically significant.

TABLE 15. Summary of Significant Gains in Social Causality Test Scores From Pre- to Post-Conditions

School	Treatment / Control	Grades 1	2	3	4	5	6
A	T	**	**	***	***	*	***
	C						
B	T		*	**			**
	C						
C	T				***	**	
	C						
D	T	**			*		*
	C						
E	T	***	***	**	***	***	***
	C						
F	T		***			**	**
	C						

* significant at .05
** significant at .01
*** significant at .001

Table 15 also indicates that in the remaining thirteen school-grade combinations (36 percent) no significant gains were observed in either the treatment or the control classes. Indeed, no control class exhibited significant gains. However, the most damaging result to the hypothesis that could have occurred would have been a significant gain in the control class with a corresponding non-significant gain in the treatment class. This did not occur.

The summary of changes in variability of causality test scores, from pre- to post-condition, is displayed in Table 16. The hypotheses of less variation of causality test scores in the post-condition of the treatment class than in the pre-condition of the treatment class (L) and greater variation of causality test scores in the post-condition of the control class than in the pre-condition of the control class (G) were supported in thirty of the thirty-six comparisons (83 percent). The result most contrary to the hypotheses, namely, greater variation in the post-condition than in the pre-condition of the treatment class scores and less variation in the post-condition than in the pre-condition of the control class scores, was not obtained. However, five comparisons (14 percent) showed less variability of post-causality scores than pre-causality scores for both treatment and control classes (i.e., A1, B3, B4, D5, and E2). In one cell, school-grade A3, both the treatment and control classes indicated greater variability of causality test scores in the post-condition than in the pre-condition.

TABLE 16. Summary of Changes in Variability of Causality Test Scores From Pre- to Post-Conditions

School	Treatment / Control	Grades					
		1	2	3	4	5	6
A	T	L	L	G	L	L	L
	C	L	G	G	G	G	G
B	T	L	L	L	L	L	L
	C	G	G	L	L	G	G
C	T	L	L	L	L	L	L
	C	G	G	G	G	G	G
D	T	L	L	L	L	L	L
	C	G	G	G	G	L	G
E	T	L	L	L	L	L	L
	C	G	L	G	G	G	G
F	T	L	L	L	L	L	L
	C	G	G	G	G	G	G

L = less variation of scores in the post-condition than in the pre-condition
G = greater variation of scores in the post-condition than in the pre-condition

An examination of Tables 13 and 15 indicates that in only two instances, B2 and B3, was there a significant gain in the causality scores of the treatment class with no corresponding significant gain in the knowledge scores of the treatment class. All other treatment classes that showed significant gains in causality scores also showed significant gains in knowledge scores (i.e., 21 classes). However, there were twelve treatment classes that had significant gains in knowledge scores and did not show significant gains in causality scores. One treatment class had no significant gains in either knowledge or causality. This seemingly linear relationship between significant treatment gains in knowledge scores and significant treatment gains in causality scores was explored. Placing the above data into a four-fold table containing significance or

non-significance of knowledge test gains as one dichotomous variable and the significance or non-significance of causality test gains as the other dichotomous variable, a phi coefficient (which is roughly interpretable as a Pearson r) of -.02 was obtained. This indicates that a linear relationship between significance in one variable and significance in the other variable is extremely unlikely. Nevertheless, there remains a possibility that even a small relationship may be very strong. Cramér's statistic was computed to ascertain the strength of the relationship. The obtained value of .02 indicates a very tenuous relationship, at most.

Conclusions

The summary of knowledge test results as presented in Table 13 indicates that each of the curricula appears to be effective with regard to the tests composed directly from the content of each curriculum. The results in 75 percent of the school-grade combinations are in the hypothesized direction of significant knowledge test score gains, from pre- to post-conditions, in the treatment classes and no gains in the corresponding control classes. A consideration of the cells in which both the treatment and control classes reported significant gains, or of the cells in which both the treatment and control classes reported no gains, reveals no discernible pattern, either within each grade level or within each school. The diversity of locales and socio-economic status which characterize the twenty-seven school-grade combinations is indeed impressive. Significant gains were obtained by students from suburban, small-city, inner-city, large-city, public, and parochial schools. These students were members of families judged to be of middle, lower, and upper-middle socio-economic status.

The companion hypothesis of less change in variation of treatment class test scores than control class test scores was substantiated by the results displayed in Table 14. Eighty percent of the comparisons were in the hypothesized direction, while no comparisons were exactly contridictory. The results in the six cells in which the control classes also showed less variability in knowledge scores in the post-condition may be explained by the normal conversation among children in the same grade and among teachers of the same grade.

The summary of causality test results exhibited in Table 15 may not appear

impressive at first glance. Significant gains were observed in twenty-three treatment classes (64 percent) with an instrument that has a reliability of .73. Further, each of the corresponding twenty-three control classes did not produce significant gains. The teachers of the treatment classes were selected by their principals, and these teachers received an explanation of the causal approach (i.e., a one-day session to explain the causal approach generally and the curricular material in each specific grade. The major emphasis was placed upon the specific review of the curricular material). Therefore, Table 15 may be a reflection of the principals' deviance from the selection criteria or a reflection of the efficacy (or lack of it) of the short orientation to the causal approach. The most plausible explanation would seem to be that the teachers selected for the treatment classes that did record significant gains in causality scores were, in fact, already infused with the same characteristics that are indicative of those teachers who exhibit the causal approach. A replication of this study ought to consider teacher effects in regard to causality as well as student effects. In sum, the apparent pattern of significant gains in Schools A and E may be due to the teacher selection process that was used rather than to an overall awareness and use of the causal approach by all or almost all the teachers in these two schools. There may be other logical explanations as well. The students who achieved significant gains in causality test scores reside in areas that can be characterized as suburban, small city, inner city, and large city. These students attend public and parochial schools. Their socio-economic status ranges from lower to upper-middle.

The related hypothesis of less change in variation of treatment class causality test scores than control class causality test scores was given some substance by the

results presented in Table 16. Thirty of the thirty-six comparisons (83 percent) supported this hypothesis while no comparisons were exactly contrary to the hypothesis. Again, the remaining results may be explained by the effects of normal conversation among students and among teachers.

APPENDIX D

Evaluation of the

Drug, Alcohol and Tobacco Curriculum

Junior High School Level

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8/18/71

The evaluation of this curricular program has been both formative and summative. The formative evaluation input consisted of teacher feedback, student feedback, and preliminary instrument development data. This information was used to revise the program and refine the instruments. The formative aspect of the evaluation process is not reported here. The present concern is with summative evaluation; that is, the evaluation of the curricular program at a particular point in its development - namely, that point immediately preceding a final revision.

Three instruments were used to measure the effectiveness of the program: 1) A Drug Knowledge multiple-choice type test; 2) a Social Causality multiple-choice type test, and 3) a Drug Attitude semantic differential instrument.

In addition to the usual tests of significance, a measure of the Relative Rate of Increase (RRI) was devised to indicate the rate of increase from pre to post test scores in the experimental group compared to the rate of increase from pre to post test scores in the control group, or

$$\frac{\bar{X}_{E2} - \bar{X}_{E1}}{\bar{X}_{C2} - \bar{X}_{C1}} = RRI$$

where

$\bar{X}_{E2}$ = the post test mean of the experimental group

$\bar{X}_{E1}$ = the pre test mean of the experimental group

$\bar{X}_{C2}$ = the post test mean of the control group

$\bar{X}_{C1}$ = the pre test mean of the control group

This index has several characteristics. A positive RRI means that the scores increased from pre to post administration in both the experimental and control conditions or that the scores decreased from pre to post administration in both the experimental and control conditions; that is, both differences must be positive or both must be negative if the index is positive. A negative RRI means that either only the experimental difference is negative, or that only the control difference is negative; that is, only one pre mean is greater than the corresponding post mean. An RRI of $\pm$ 1.00 indicates that the experimental and control differences have the same numerical value. If + 1.00, the amount of difference and the direction are the same for experimental and control. If - 1.00, the amount of difference is the same but the direction is different with regard to experimental and control conditions. An RRI greater than 1.00 indicates that the absolute experimental difference is greater than the absolute control difference. Conversely, an RRI less than 1.00 indicates that the absolute experimental difference is less than the absolute control difference.

For each of three teachers(one from each of three schools) in the Lima system, 8th grade students who had a study hour at the time the program was taught were randomly assigned to either a control group or an experimental group. The Dayton sample consisted of randomly selected 8th graders from one school who were randomly assigned to a control or experimental group. Each group was pre tested with the three instruments described above. The Lima control group continued with the study hour. The Dayton control group continued in their respective classes. All experimental groups were exposed to the D.A.T. program

for 1/2 hour per day, for eight weeks, and the post tested. The post test instruments were the same as the pre test instruments. Since all of the Lima students were assumed to have come from the same population, they were grouped within each treatment condition. This did not seem to be an unreasonable assumption since an analysis of variance of the drug knowledge data among the three experimental classes resulted in $F_{2,37} = .25$ and a similar anova among the three control classes yielded $F_{2,35} = 1.08$. Clearly, both statistics required the fail to reject decision at the .05 level of significance, and this tended to provide an a priori basis for the assumption.

Drug Knowledge Test Data

The means, standard deviations, t values, and RRI for the Lima and Dayton samples, separately and combined, are displayed in Table 1.

Table 1

Drug Knowledge

Means, Standard Deviations, t-tests, and RRI

Lima and Dayton

Treatment	Pre			Post			t	RRI
	$\bar{X}$	sd	n	$\bar{X}$	sd	n		
Experimental	5.95	3.42	40	7.45	2.29	38	2.22*	
Control	6.24	2.03	38	7.08	1.89	36	1.83	1.78
Experimental	5.39	1.70	18	6.91	2.50	22	2.14*	
Control	6.28	2.38	18	6.86	1.96	21	.81	2.62
Experimental	5.78	3.07	58	7.25	2.38	60	2.92*	
Control	6.25	2.15	56	7.00	1.92	57	1.94	1.96

* significant at .05

The control groups, in each sample and in the combined sample, showed no significant differences between the pre and post tests. The experimental groups, however, did exhibit significant differences between the pre and post tests. These results indicate that the D.A.T. program does effect scores on the Drug Knowledge Test in the desired direction. The RRI gives an indication of the degree of effectiveness of the D.A.T. program. In the Lima sample, the program is 1.78 times as effective as no program (i.e., the control group), and the D.A.T. program is 2.62 times as effective as no program in the Dayton sample. The D.A.T. program effected an RRI of 1.96 for the combined samples.

Social Causality Test Data

The means, standard deviations, t-values, and RRI for the Lima and Dayton samples, separately and combined, are displayed in Table 2.

Table 2

Social Causality

Means, Standard Deviations, t-tests, and RRI

Lima and Dayton

Sample	Treatment	Pre			Post			t	RRI
		$\bar{X}$	sd	n	$\bar{X}$	sd	n		
Lima	Experimental	3.17	1.67	24	4.28	1.81	21	2.09*	55.5
	Control	3.98	1.80	40	4.00	1.76	34	.06	
Dayton	Experimental	3.17	1.21	18	4.00	2.27	21	1.36	2.30
	Control	3.59	1.65	17	3.95	1.89	21	.61	
Combined	Experimental	3.17	1.49	42	4.14	2.06	42	2.45*	8.08
	Control	3.86	1.76	57	3.98	1.82	55	.36	

* significant at .05

Table 2 indicates that there were no significant differences between pre and post test scores for the control groups of both the Lima and Dayton samples, individually and combined. The Lima experimental group did show a significant difference, while the Dayton experimental group did not. However, the combined experimental treatment condition did exhibit a significant difference between pre and post test scores. Since the two samples were similar, it was possible to collapse the sample variable and consider this as data from one sample. The extremely large value for RRI of the Lima sample is due to the control group mean difference of .02. This very small difference tends to over emphasize even a moderate difference, when they are compared to each other. The combined RRI of 8.08 would appear to be a much more reasonable value. This is a good illustration for the advisability of combining subjects that are statistically similar - i.e., to allow the Central Limit Theorem to operate (as N increases, the sampling distribution of $\overline{X}$ approaches normality.)

Attitudinal Changes

An attempt was made to measure both the magnitude and direction of attitude change by means of a semantic differential type of instrument. Nine attitudinal dimensions were selected as representative of the basic thrust of the D.A.T. program in relation to six major areas of concern. The six major areas of concern, or concepts of the semantic differential, are represented as the Figure headings below - 1) LSD; 2) Heroin; 3) Pills; 4) Marijuana; 5) Beer, Wine or Whiskey; and 6) Cigarettes. Each of these concepts are measured along several attitudinal dimensions, or the nine bi-polar adjective scales (except the scale FAILURE-SUCCESS, which is a bi-polar noun scale). Of course, the directions of the scales on the actual instrument were determined in a random manner to minimize any response sets that may have been operating. It is readily apparent that the scales were selected because of their grounding in the content and objectives of the D.A.T. program and not on the basis of semantic differential instruments that have been constructed for other, diverse, evaluative purposes.

The scale means, for each concept, of the Experimental pre test condition (after combining the two samples) - the corresponding values of the post test condition - and the obtained t values for the differences between the mean scale values of the pre and post conditions are presented in Table 3. Since the pre and post test means are presented in an easier to understand graphic form in the Figures below, the instant focus will be on the right hand portion of Table 3; i.e., the display of t values for the differences between the pre and post test means of

Table 3. Experimental Conditions

Scale x Concept Means and Associated Pre - Post t tests

Scales \ Concepts	Pre-test means						Post-test means						t-tests					
	LSD	Heroin	Pills	Mari-juana	Beer Wine Whiskey	Cigar-ettes	LSD	Heroin	Pills	Mari-juana	Beer Wine Whiskey	Cigar-ettes	LSD	Heroin	Pills	Mari-juana	Beer Wine Whiskey	Cigar-ettes
Dangerous- Safe	1.33	1.25	2.17	1.97	2.61	2.21	1.24	1.17	2.12	1.62	2.77	1.76	-.73	-.73	-.22	-1.60	.66	2.11*
Dishonorable-Honorable	1.92	1.96	2.53	2.18	2.41	2.69	1.76	1.76	2.34	2.14	2.65	2.17	-.70	-.74	-.70	.04	.99	-2.10*
Cold-Warm	2.81	3.02	2.98	3.12	3.35	3.64	2.52	2.61	2.83	2.82	2.99	3.01	-1.06	-1.42	-.64	-1.20	-1.38	-2.42*
Worthless-Valuable	2.45	2.34	2.84	2.47	2.45	2.33	1.92	1.92	2.57	1.89	2.55	1.93	-1.74	-1.41	-.96	-2.01*	.34	-1.53
Inferior- Superior	2.32	2.16	2.54	2.33	2.55	2.68	1.95	1.76	2.51	1.96	2.75	2.15	-1.42	-1.58	-.12	-1.45	.80	-2.15*
Unpleasant-Pleasant	2.04	1.83	2.44	2.23	2.70	2.46	1.54	1.70	2.27	1.67	2.78	1.84	-2.22	-.60	-.66	-2.22*	.30	-2.64*
Dull-Exciting	1.94	2.35	2.52	2.74	3.07	2.18	2.69	2.17	2.14	2.38	2.72	2.04	1.97	-.63	-1.65	-1.26	-1.30	-.59
Failure-Success	1.86	1.65	2.37	1.88	2.71	2.52	1.75	1.63	2.32	1.87	2.46	2.02	-.47	-.11	-.19	-.04	-1.04	-2.19*
Foolish-Wise	1.59	1.43	2.23	1.65	2.21	2.12	1.24	1.29	2.07	1.51	2.27	1.66	-2.18*	-.88	-.64	-.70	.26	-2.19*

* significant at .05

corresponding cells of the two remaining sections of Table 3. The most obvious condition of the t matrix is its essentially negative character. Ignoring the concept of Beer, Wine, or Whiskey, only 2 of the 45 t values are positive. This tendency toward smaller mean values on the post measure for the Experimental group may be readily seen in the Figures. A total of eleven t values reached significance at the .05 level. Two-tailed tests were used in order that biases toward the program might be kept at a minimum. Seven of the nine t values for the concept Cigarettes were significant.

The scale by concept pre and post means, and the associated t values, for the Control condition, are displayed in Table 4. As above, the pre and post means are plotted in the Figures below and the concern here will be with the extreme right hand, or t-test, matrix. The generally positive character of the matrix is readily apparent; that is, the scores on the post measure tend to be closer to the right hand member of the bi-polar scales. More precisely, however, the lack of significant t values in the control group is indicative of attitudes' general resistance to change. One significant difference between pre and post means was obtained. This difference was in the direction of the right hand member of the Cold-Warm scale in the concept Cigarettes. That is, when considering Cigarettes, the control group moved significantly closer to Warm, on the dimension Cold-Warm, merely with the passage of time.

Table 4. Control Condition

Scale x Concept Means
and
Associated Pre-Post t Tests

Scales \ Concepts	Pre-test means						Post-test means						t - tests					
	LSD	Heroin	Pills	Mari-juana	Beer Wine Whiskey	Cigar-ettes	LSD	Heroin	Pills	Mari-juana	Beer Wine Whiskey	Cigar-ettes	LSD	Heroin	Pills	Mari-juana	Beer Wine Whiskey	Cigar-ettes
Dangerous- Safe	1.10	1.14	1.96	1.78	2.31	2.20	1.22	1.23	1.97	1.81	2.54	1.83	1.17	.84	.04	.13	.80	-1.68
Dishonorable-Honorable	1.87	1.74	2.06	2.03	2.47	2.86	2.13	2.07	2.36	2.21	2.54	2.78	1.03	1.25	1.16	.70	.30	-.29
Cold- Warm	2.47	2.61	2.65	2.63	3.03	3.07	2.33	2.64	2.57	2.64	3.14	3.76	-.48	.10	-.33	.04	.38	2.73*
Worthless-Valuable	2.15	2.10	2.53	2.27	2.14	2.22	2.25	2.58	2.68	2.68	2.63	2.34	.31	1.49	.50	1.28	1.80	.43
Inferior-Superior	1.99	1.67	2.12	1.91	2.31	2.24	2.01	1.89	2.47	2.14	2.41	2.28	.08	.92	1.38	.94	.41	.17
Unpleasant-Pleasant	1.87	1.88	2.03	2.01	2.62	2.60	1.94	1.62	2.22	2.34	2.72	2.40	.26	-1.10	.78	1.29	.38	-.74
Dull Exciting	2.52	2.42	2.56	2.61	2.76	2.16	3.13	2.46	2.46	2.50	2.90	2.09	1.95	.13	-.37	-.37	.51	-.30
Failure-Success	1.58	1.60	2.06	1.86	2.32	2.54	2.00	1.76	2.36	2.24	2.42	2.33	1.74	.69	1.15	1.52	.42	-.86
Foolish-Wise	1.34	1.34	1.86	1.80	2.10	2.01	1.43	1.31	1.82	1.77	2.22	1.85	.60	-.19	-.17	-.13	.51	-.72

* significant at .05

$t_{100;\ .05} = 1.98$

Consider now the graphic presentation of the pre and post means for the Experimental group - Figures 1 through 6 - and for the Control group, as given in Figures 7 through 12. While these Figures may be interesting because one can readily see at a glance the direction of movement along the several attitudinal dimensions (scales), and there is the further notation of real movement, wherever this may have occurred, rather than apparent movement, no additional information is provided by these Figures than may be obtained from the t-test sections of Tables 3 and 4.

Summary

The data from the two samples were combined since they exhibited similar characteristics on the instruments used to measure change. The Drug Knowledge pre test data show that there were no differences between the Experimental conditions of the Dayton and Lima groups ($t_{56;\ .06} = .06$). Similarly, the Control showed no difference on the Social Causality pre test ($t_{56;.05} = .73$), and a glance at the Experimental means indicates no difference between the Dayton and Lima samples. Therefore, the conclusions are based upon the combined data.

Table 1 indicates a significant gain in Drug Knowledge scores for the Experimental group, with no gain in Drug Knowledge scores for the Control group. Thus, if everything else was held constant, the program was indeed effective in imparting Drug Knowledge to the students. An attempt was made to "hold everything else constant" by use of randomization procedures, however, the results may have been contaminated to the extent that no effective control was instituted to restrict the Experimental students from imparting their new found knowledge to the Control students. The gain in mean, from pre to post, is very likely a maximum gain for the Control group, and if this is so, the Relative Rate of Increase would tend to be a minimal or conservative estimate, except for the numerical peculiarity described previously.

With regard to Social Causality, Table 2 shows a significant increase in Social Causality Test scores for the Experimental group, while the Control group evidenced no change between pre and post scores.

The most interesting aspect of this evaluation, by far, is the attempt to measure attitudinal changes. An underlying assumption of the program is that changes in attitudes will cause behavioral changes. A corrollary to this assumption may be stated as - if the attitudinal changes are in the direction which has been designated as proper, or right, or true, the corresponding behavioral changes will also be in that direction. Of course, the existence, and demonstrated effectiveness of methods dealing with a direct attack upon the unwanted behaviors, with a resultant change in attitudes, such as behavior therapy, must be acknowledged although the concern here is with the more humanistic approach embodied within the D.A.T. program.

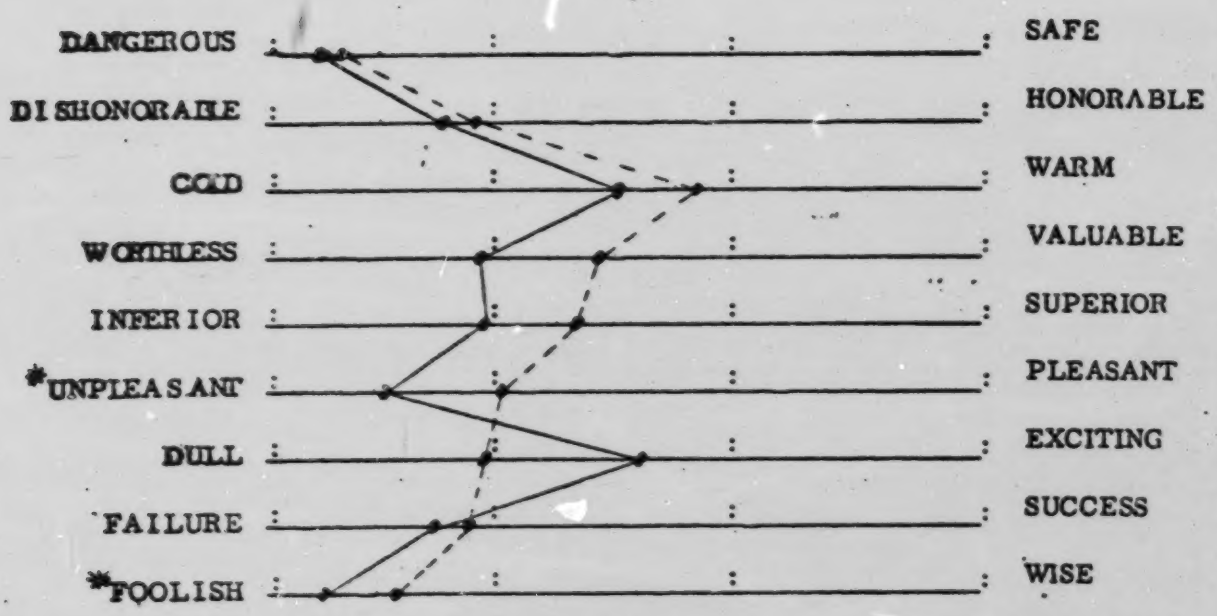
Several conclusions may be drawn from the attitudinal data. The most obvious is the almost opposite character, in sign, between the Control differences and the Experimental differences. There seemed to be a general tendency for the Control group to go in the direction of the right hand members of the scales (the undesirable direction), as indicated by the predominant number of positive t values. More specifically, however, the program appeared to be effective in changing attitudes related to Tobacco (Table 3 - 7 of 9 scales reached the .05 level of significance). Unfortunately, the program's effectiveness in changing attitudes related to Alcohol does not seem to have fared as well, inasmuch as there were no significant differences within the concept Beer, Wine, or Whiskey - indeed, only three scales showed differences in the negative direction. (A gentle reminder that

the semantic differential is not an ipsative scale would not be remiss here.) The program tends to be effective in changing attitudes related to Drugs. While there were only two cells with positive t values, within the Drug concepts, there were only four that reached significance. It would seem advisable, in future presentations, for the instructors and any revised program material to exploit several tendencies that seem to be going in the desired direction. The t test section of Table 3 indicates that negative values were obtained across all concepts for the Cold-Warm and the Failure-Success scales; the scale Unpleasant-Pleasant evidenced three significant t values; the scale Foolish-Wise developed two significant t values. Stress ought to be placed upon the left hand members of the above scales, while marshalling responses contrary to the right hand members.

Thus, it may be concluded that the program effectively imparts Drug Knowledge and a knowledge of Social Causality. In addition, and perhaps of most import, some attitudes did change and there are strong indications that further formal or informal revisions, in terms of particular attitudinal aspects that ought to be stressed, would result in more extensive attitudinal changes.

Figure 1. LSD

Combined Experimental Group Means



* significant at .05

---------- = pre test means

_____ = post test means

Figure 2. Heroin

Combined Experimental Group Means

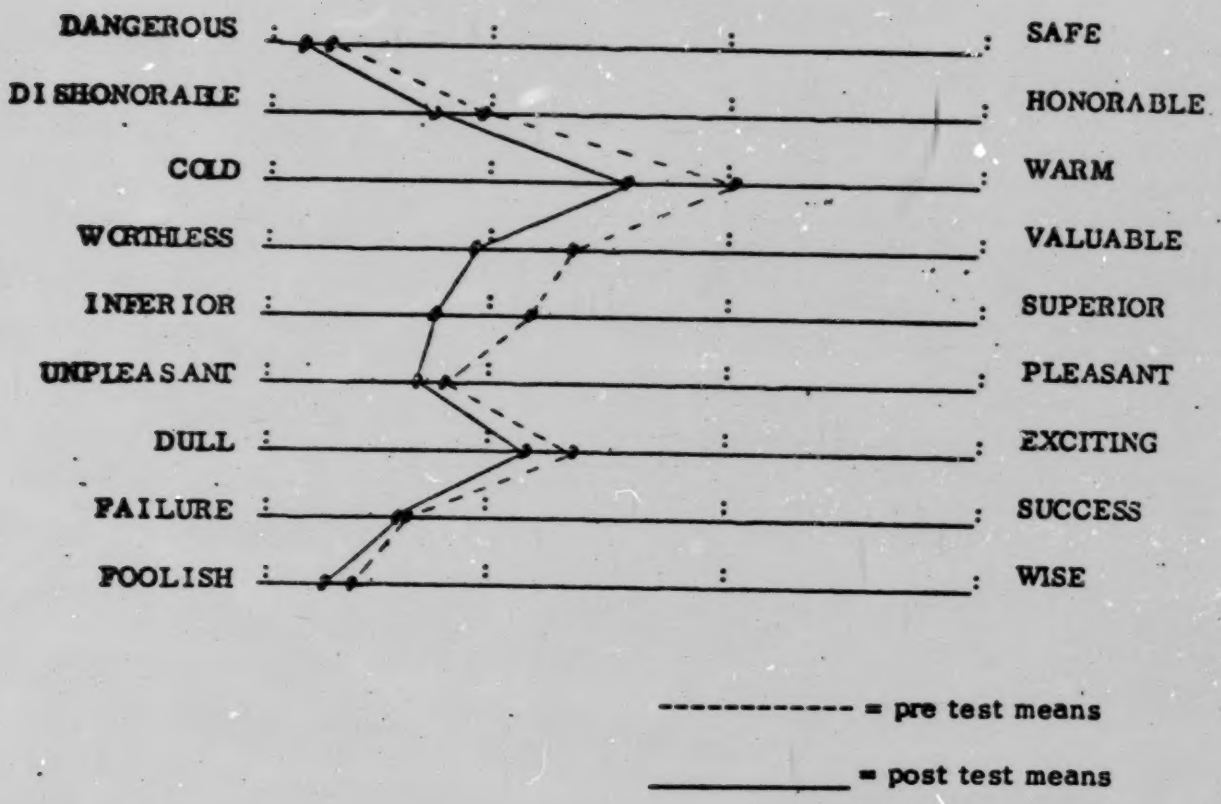


Figure 3. Pills

Combined Experimental Group Means

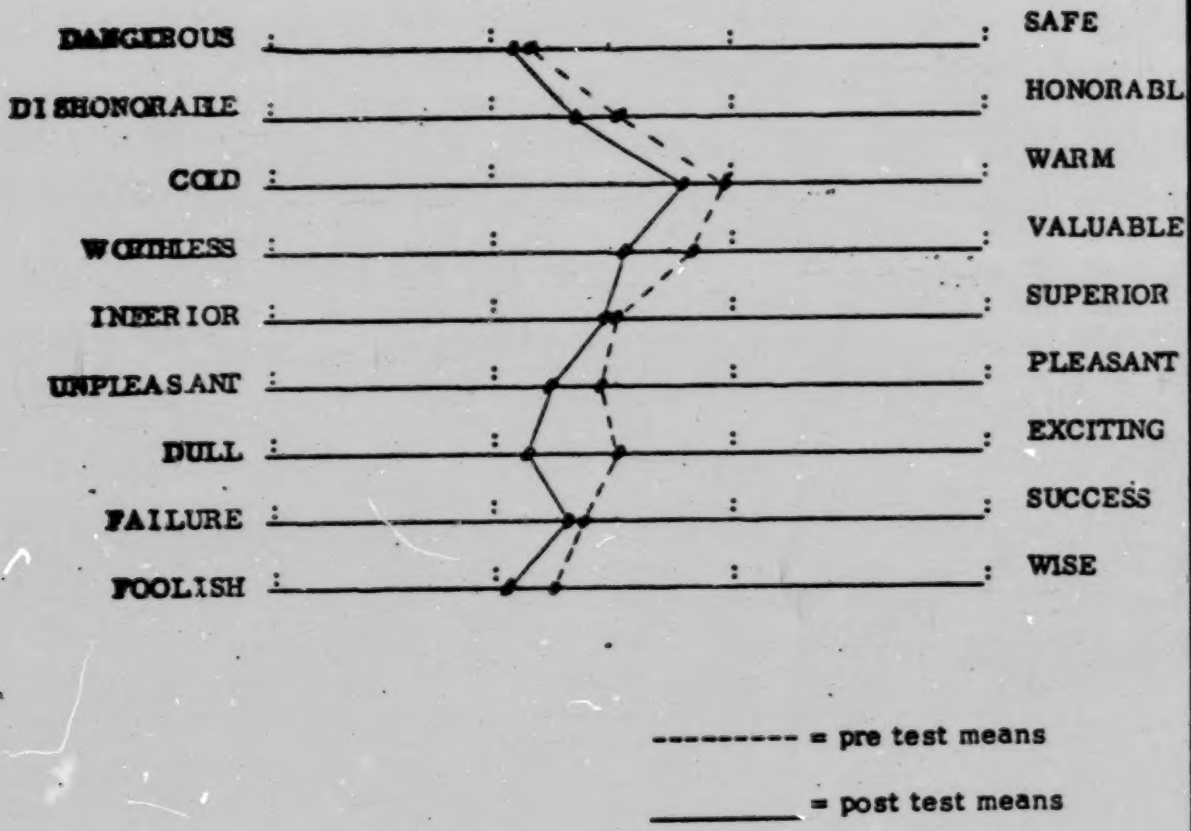
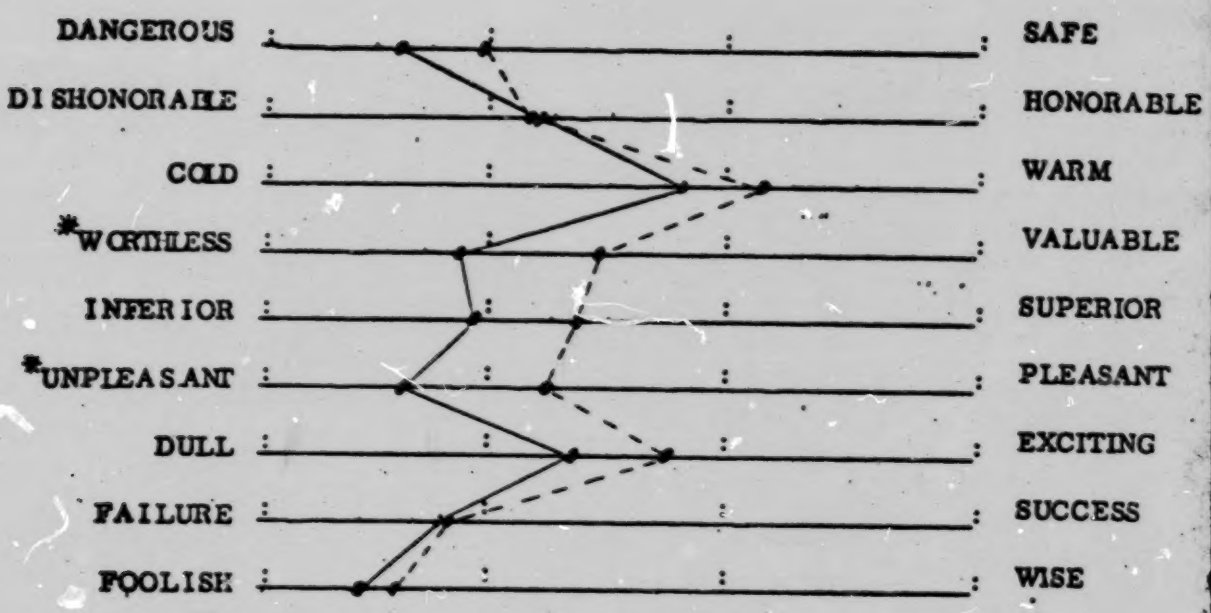


Figure 4. Marijuana

Combined Experimental Group Means



* significant at .05

------- = pre test means

_____ = post test means

Figure 5. Beer, Wine, or Whiskey

Combined Experimental Group Means

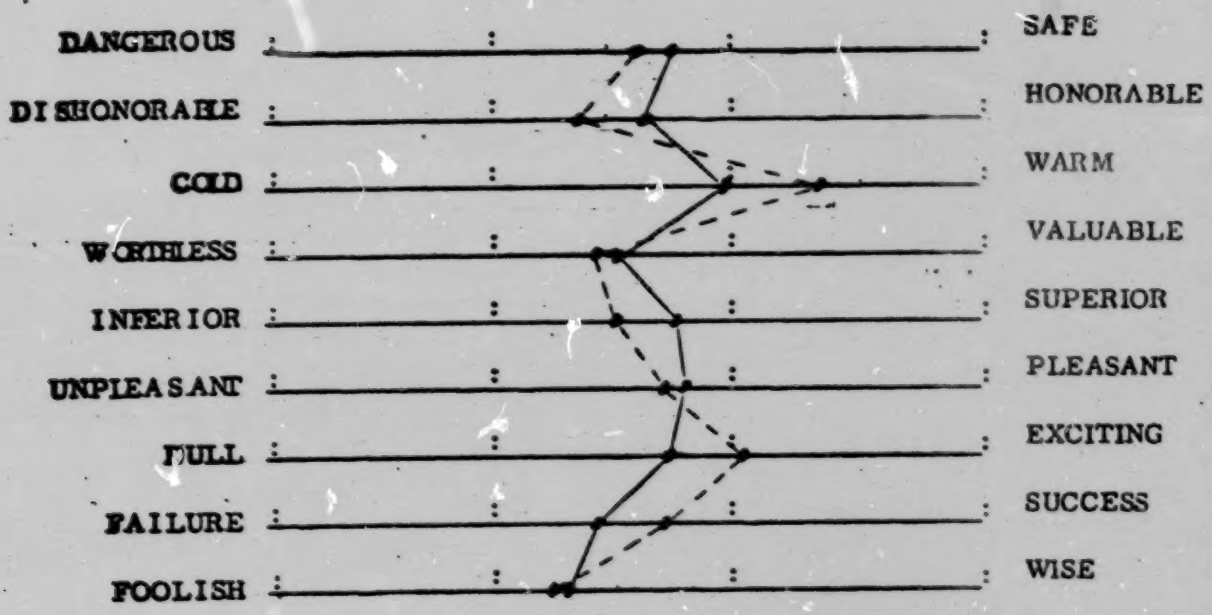
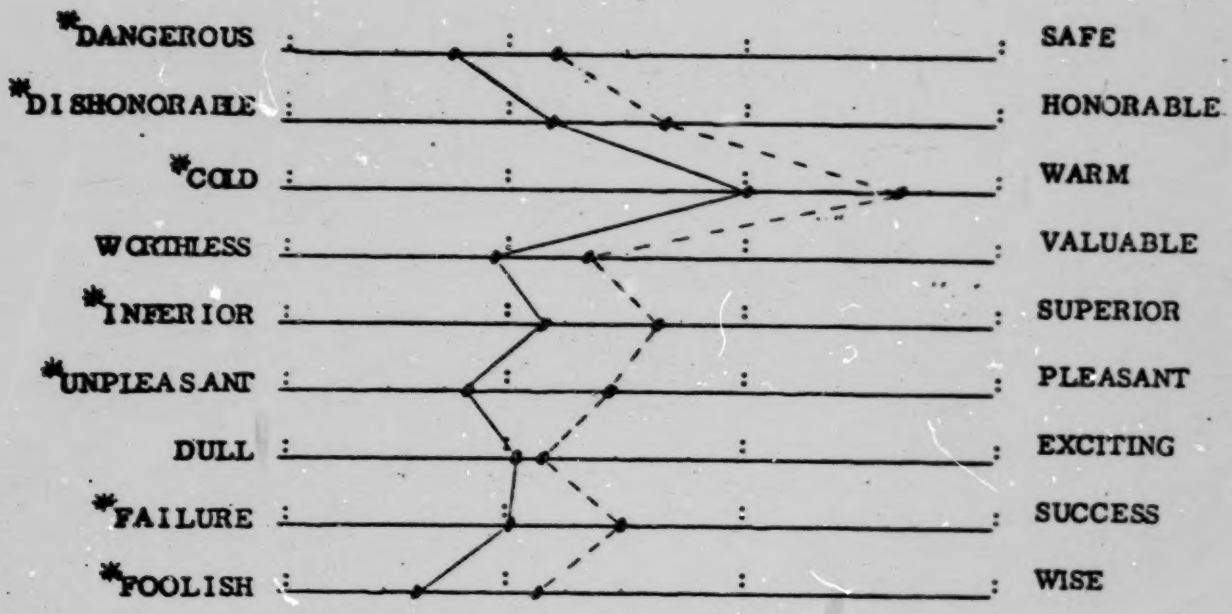


Figure 6. Cigarettes

Combined Experimental Group Means



* significant at .05

--------- = pre test means

_____ = post test means

Figure 7. LSD

Combined Control Group Means

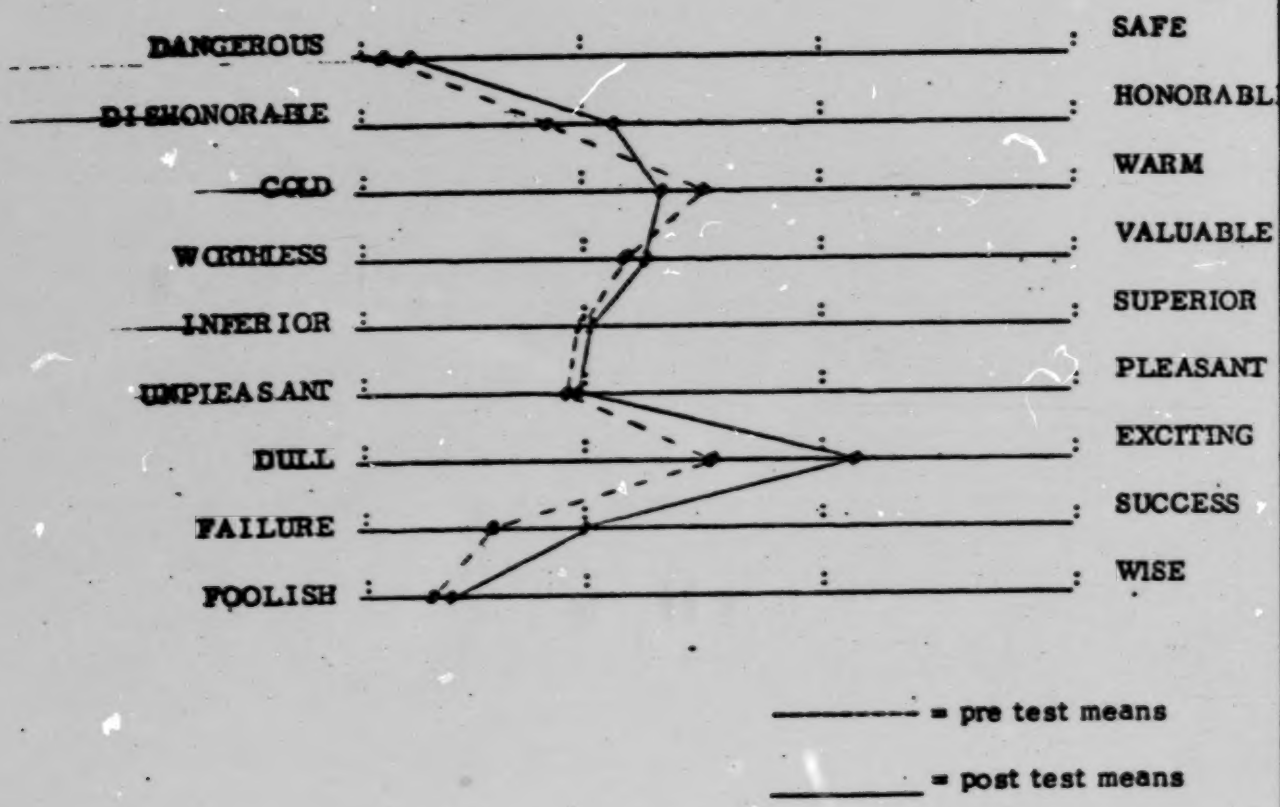


Figure 8, Heroin

Combined Control Group Means

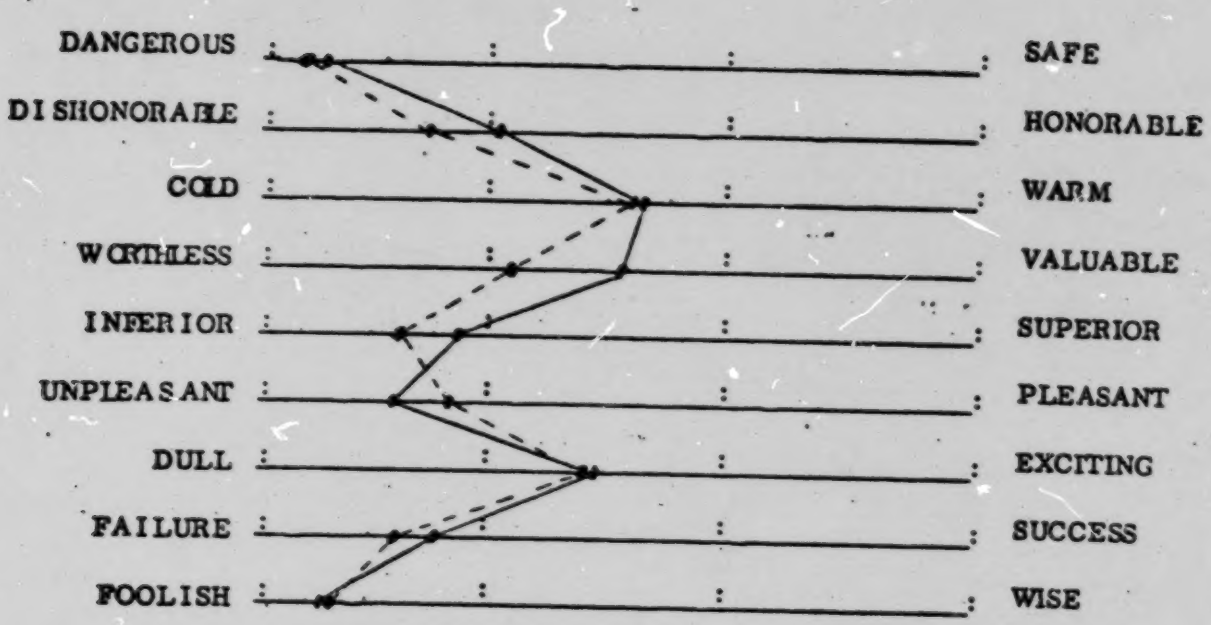


Figure 9, Pills

Combined Control Group Means

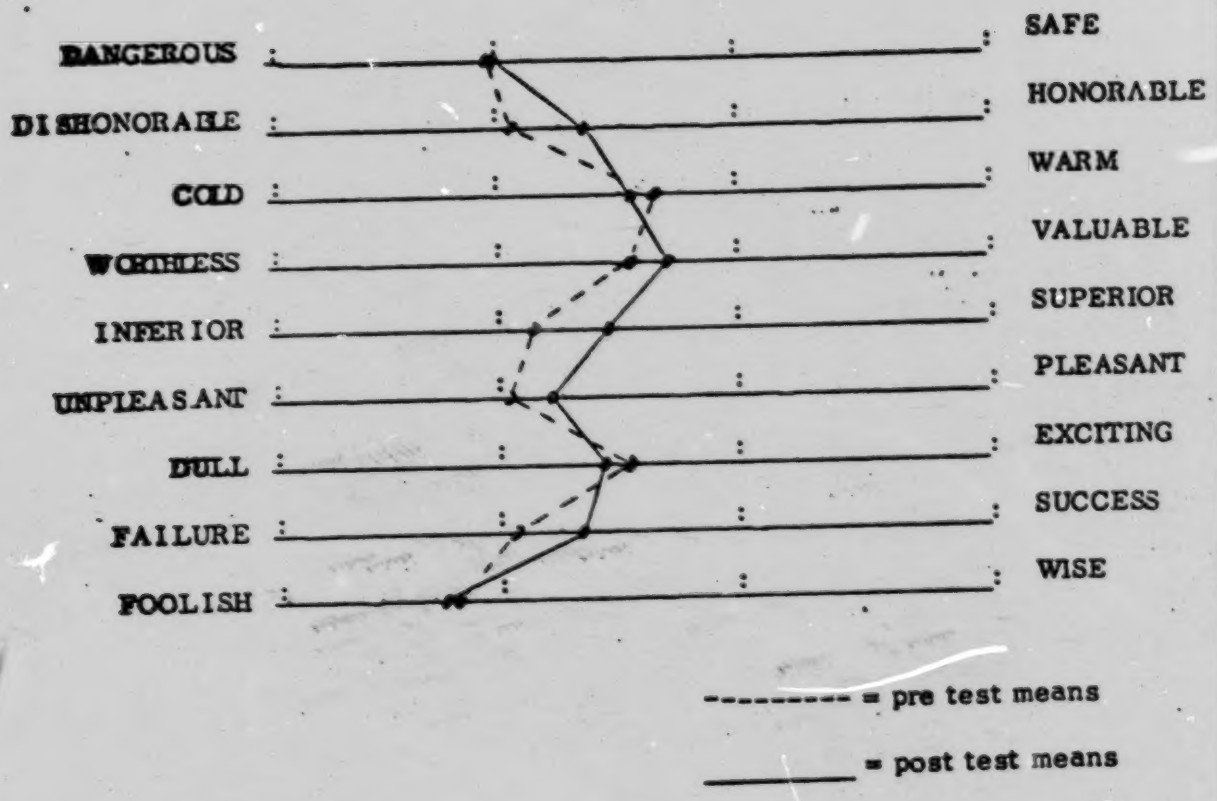


Figure 10. Marijuana

Combined Control Group Means

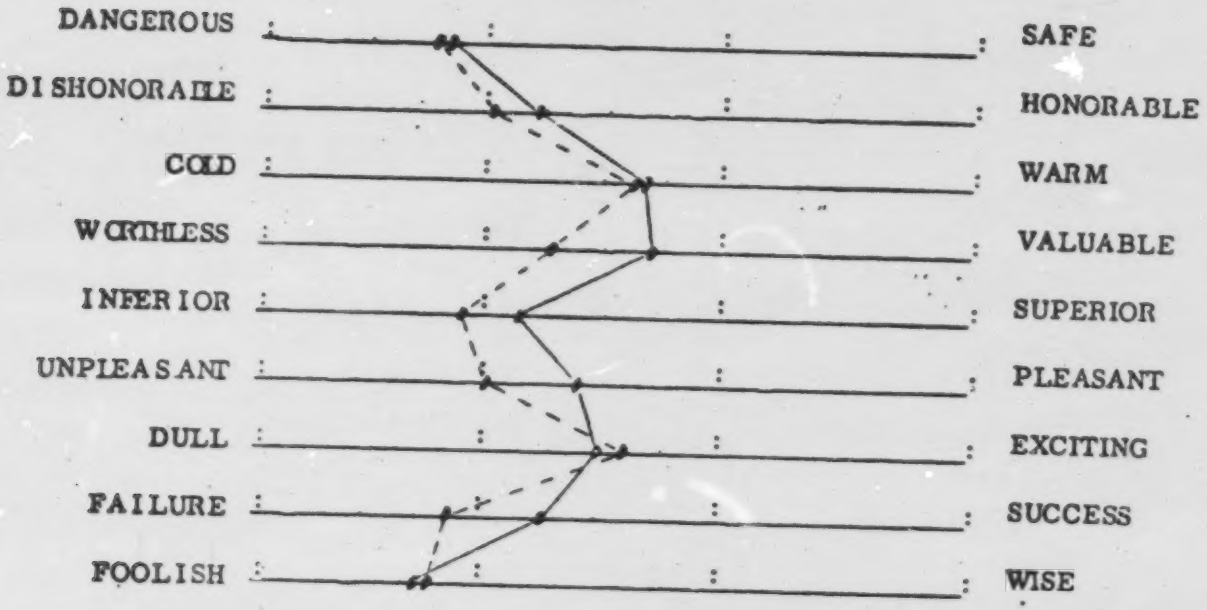


Figure 11. Beer, Wine, or Whiskey

Combined Control Group Means

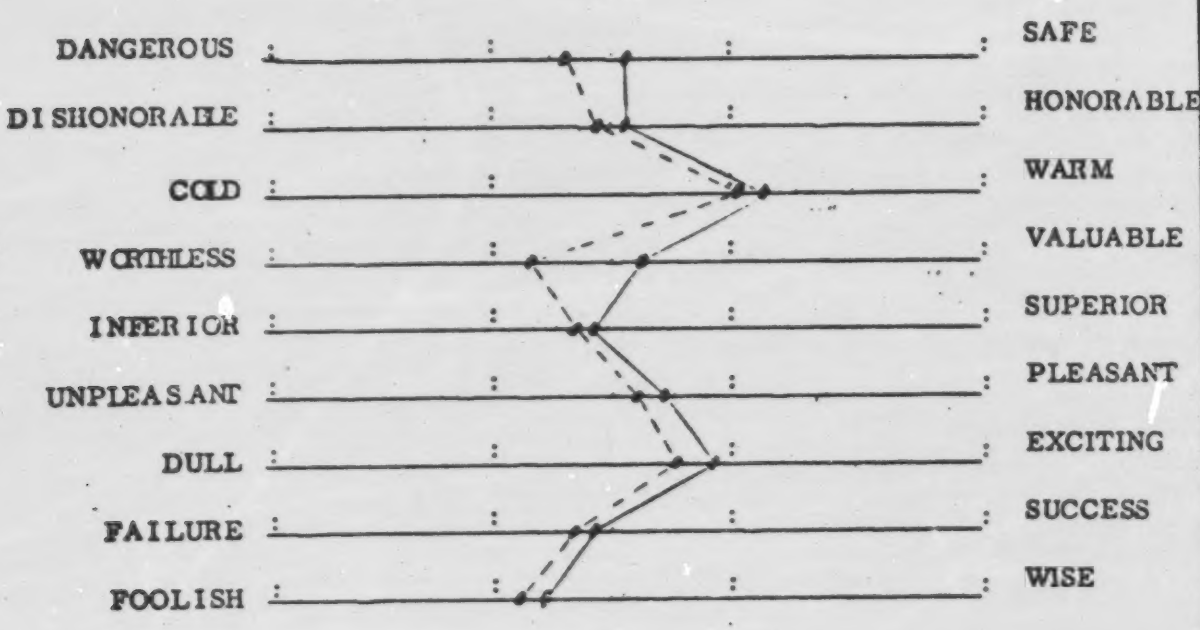
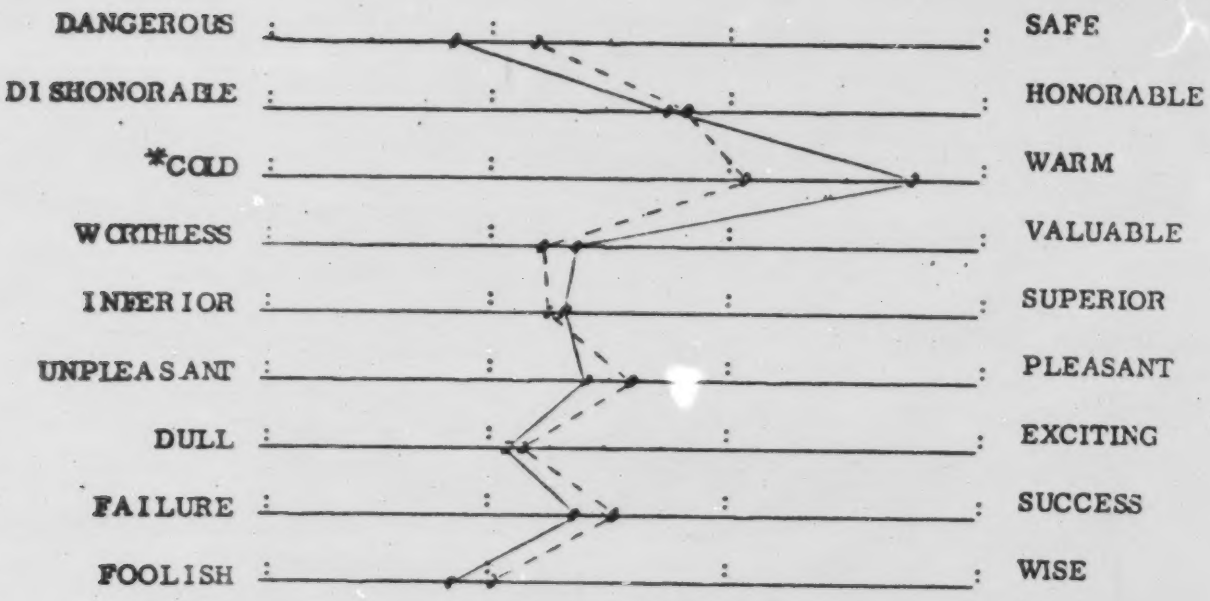


Figure 12. Cigarettes

Combined Control Group Means



* significant at .05

-------- = pre test means

_____ = post test means

APPENDIX E

Evaluation Report

Title III

Drug, Alcohol, Tobacco Education Curriculum
Senior High School Level

Human-Persons and the Use of Psychoactive Agents

Dr. Eddie E. Myers
Assistant Director
Child-Educational Psychology and Preventive Psychiatry Department
Educational Research Council of America

April 1973

Evaluation Report - Title III Drug, Alcohol, Tobacco Curriculum
High School Level

Dr. Eddie E. Myers
Assistant Director
Child-Educational Psychology and Preventive Psychiatry Department
Educational Research Council of America

In the spring of 1968, the Ohio State Department of Education commissioned the Educational Research Council of America to conduct a statewide Family Life Education Survey to determine the status of educational programs in the areas of drugs, alcohol and tobacco, human sexuality, and aggression and violence. The data received indicated a lack of student knowledge and inadequate teacher background in these critical areas of social and educational concern. As a result of the survey, proposals were submitted and funds granted to the Dayton, Ohio, and Lima, Ohio, public schools to work with staff members of the Educational Research Council of America to design and develop curricula to prevent drug, alcohol, and tobacco abuse.

The purpose of this paper is to report the results of the evaluation of the senior high school curriculum entitled Human-Persons and the Use of Psychoactive Agents. Objectives of this program included increased knowledge and understanding of human behavior, increased knowledge of drug

effects, and development of more constructive attitudes in areas related to drug use and abuse. Both formative and summative evaluation procedures were executed during the development and field testing of the materials.

The first portion of the report will describe formative evaluation activities conducted and present reports received from a panel of specialists who provided written evaluations of the high school materials.

The second portion of this report will present, first, the results from the preliminary (Stage I) field testing of the curriculum in Dayton and Lima in the spring of 1971 and, second, the results of the broader, more extensive (Stage II) field testing in the Dayton, Lima, and Toledo schools.

Part I

Formative Evaluation Procedures

Throughout the development of the senior high drug education program, the materials and learning activities were evaluated periodically through regular feedback and evaluation meetings with teachers from the field test sites. Both students and teachers responded positively to the program. Teacher and student feedback sheets on the units taught were received and studied. Meetings with teachers and students resulted in numerous suggestions for improvement.

These procedures have provided a continuous process of field testing

and subjective evaluation of the program and its effectiveness in the classroom. As the result of this continuous feedback process, changes in content and order of experiences were made. These ranged from simplification of the vocabulary to the inclusion of additional summation and review activities at the conclusion of each unit. In some cases teachers found students reluctant to become active in the learning process, sometimes wanting to be entertained with drug films rather than entering into the experience-based activities. Additional suggestions were included in the teacher manual to assist in overcoming the problem of student inertia at the beginning of the course.

The senior high materials were submitted to members of the youth drug culture and former drug users to get responses from those who might be expected to be most critical of any curricular attempt to deal with drug use and abuse. Members of "The Family Tree," a youth-directed rehabilitation house that is a part of the Toledo Area Drug Abuse Program, were enthusiastic about the materials and their probable effectiveness.

Specialists were sent copies of the senior high drug education materials and asked to evaluate the program and to offer suggestions for improvement. Reports were received from Mr. Ken Green, teacher specialist, Family Life Education Center, Toledo, Ohio, and from Mr. Jon Marquart, special counselor, Sylvania High School, Sylvania, Ohio.

As the result of several meetings with these men, who are active in their own local programs, content and experiences were refined.

Written reports were received from three nationally recognized specialists to provide an additional source for program revision.

These specialists were:

Dr. Charles Winick, director, Program in Drug Dependence and Abuse, American Social Health Association.

Dr. Allen Cohen, former associate of Dr. Timothy Leary, currently one of the nation's outstanding leaders in drug education. Director of the Institute for Drug Abuse Education and Research, John F. Kennedy University.

Dr. Merl Bonney, distinguished professor of psychology, North Texas State University.

These reports are as follows:

Eddie E. Myers, Ed. D.
Senior Research Associate
Psychology Department
Educational Research Council of America
Rockefeller Building
Cleveland, Ohio 44113

Dear Eddie,

Enclosed is a written compilation of comments.

I hope they serve the purposes of a helpful evaluation, and I apologize for not finding very many major weaknesses.

My very close reading of the materials made me a very enthusiastic supporter of this approach and handling.

Indeed, I was boggled realizing the immense work that must have gone into it and the great effort making it a coordinated and integrated piece. Informally, I can only send you a hearty "Well Done!"

Hope to see you again one of these days.

Keep smiling.

Sincerely,

Allan

Allan Y. Cohen, Ph.D.

2164 ASHBY AVENUE BERKELEY, CALIFORNIA 94705 Telephone: (415) 841-2318

Consulting Psychologist

25 October 1971

To : Eddie E. Myers, Ed.D.
Senior Research Associate
Psychology Department
Educational Research Council of America
Rockefeller Building
Cleveland, Ohio 44113

From: Allan Y. Cohen, Ph.D., Consulting Psychologist

Re: General Evaluation of HUMAN PERSONS AND THE USE OF PSYCHOACTIVE AGENTS

I. GENERAL EVALUATION OF PROGRAM

Human-Persons and the Use of Psychoactive Agents reflects a maximally sound approach to drug abuse education in a credible context, constructed with immense sensitivity to teacher needs and student attitudes. It puts together in one package, a comprehensive and reasonable approach to drug education which focuses on the causes of human behavior and yet presents drug information in an acceptable and palatable form for secondary school students. Furthur, it gives the underprepared teacher the tools to execute a viable drug education program without falling into the stereotypes which have proven disastrous in many previous drug education programs. If followed by the teacher, the program leads the student inexorably toward very close examination of decision-making in the context of the contemporary drug subculture. By going beyond the symptoms and eschewing counterproductive "scare tactics" the program sets up an attitudinal context in which student drug use will be made much less likely. As the valuing, attitudinal and decision-making

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processes are brought to light in this curriculum, many of the motives behind drug abuse are stunted. Furthur, the implications of the program lead in the direction of better student-teacher communication and an improvement in the relevance of the educational process.

Simultaneously, the curriculum becomes a course in behavioral science allowing both student and teacher to re-examine their affective life and values in a gentle and non-threatening way.

A. General Comments on Teacher Manual

The Teachers' Manual is particularly strong in two ways. First, it goes beyond teaching techniques and offers a relevant educational program for the teacher. It correctly presumes that most teachers have not thought out the drug abuse problem beyond the symptoms and seen it in its full socio-cultural or personal perspective. It takes care to lead the teacher in a logical progression to a mature and rational view of drug abuse within a causal perspective and reinforces the importance of a psychological and humanistic approach to the students. Unrelated preliminary research has tended to show that this approach is most likely to be effective with students.

The Program seems to realize how important it is for the teacher to act as an example, to really understand the principles involved and to respect the student's intelligence. Such features have not marked many drug abuse curricula. In other words, the execution of the Teachers' Manual is entirely consistent with the theoretical foundations of the curriculum. Even with various innovative curricula of the recent past this feature has been absent, crippling the program when the intellectual

concepts are not reflected in the teacher's attitude or execution.

The second primary strength of the Manual is the superb help it gives the teacher in the "Learning Activities" section and "Resources" section. There is an excellent integration between manual and student rap sheets and the Teacher's Manual correctly errs on the side of comprehensiveness and non-ambiguity. The specificity and close relevance of the Learning Activities sections becomes especially helpful in the more innovative sections, where teachers have limited experience in implementing attitudinal, value, and affective exercises.

The Resources section is again comprehensive and excellent, in bibliographic references and in choice of sources. Particularly helpful are references to psychological and interpersonal items and the collection of new media on innovative educational procedures.

II. TECHNICAL EVALUATION : MINOR CORRECTIONS NEEDED

A STUDENT RAP SHEETS

Unit I: Page 1, second paragraph : This sentence seems confusing; how is a "psychoactive agent..." "developmental?" Rewording may be helpful.

Unit III : Page 89, column 2 : Read "morphine" for "Horophine."

Page 91; "PCP" is not a psychedelic or hallucinogen. It sometimes has been used as a label for the "peace pill," sold as a psychedelic, but it is really a veterinary tranquillizer. The evaluator knows of no psychedelic chemical which would really correspond to "PCP". It is suggested that "MDA" would be a better example.

Unit IV : Page 121 : Read "Dimethyltryptamine" for incorrect "Dimethyltryplamine."

Page 122: It might be noted that STP is usually longer acting than LSD, many users reporting trips of three days; also there have been some findings which suggest that STP intoxication, when treated by certain tranquilizing drugs, may induce dangerous respiratory failure from a synergistic biochemical reaction.

Page 124-125 : It might be added that LSD's primary psychotherapeutic use has been with chronic alcoholics.

Page 127 : It seems that the articles cited on LSD do not include more recent citations. It might be good to update this section. A list with some newer citations is enclosed. Also, STASH Press, 638 Pleasant Street, Beloit, Wisconsin 53511, may be of immediate help if necessary. (Contact James Gamage)

Page 130 : The relationship between injection of speed and "venereal disease" is a bit blurry. Either the writers should spell out exactly what they mean or delete the reference to venereal disease.

Page 133 : Read "Nowlis" for "Knowlis"

Page 141 : Same comment as comment for page 130

Page 151 : This section needs some updating, since researchers have been finding definite cognitive side effects of marijuana and hashish; also, more definite physiological findings have been uncovered. A few examples are appended. Further help might be gotten from STASH (cited above) or the literature search division of the Committee for Psychedelic Drug Information, P.O. Box 851, Berkeley, California 94701

c/o Bruce Kinnerberg, Chairman of Technical Information.

Page 152 : paragraph 3 : In fifth sentence, read "tips" for "trips."

Page 152 : paragraph 7 : In second sentence, the proper slang is "tokes", not "takes"

Page 157 : subtitle : Read "Toluene" for "Tolune"

B. TEACHERS MANUAL

Assumptions and Rationale, P. 6 : Read "Nowlis" for "Knowlis."

Unit II : Pages 77 &81 : In the Learning Activities sections, references to Rap Sheets are switched around. Eg., in section c., Sheet II-H should be II-J; in 13.a. RAP II K should replace RAP II-I, and in 13 c. II-J should be replaced by II-L. On page 81, II-K should read II-H.

Page 79 : 14 a. 1 : Read "dirty yard" for "dirty year"

13 a. 3 : Read "word" for "work"

Unit III :Page 90 : In Resources section, read "Nowlis" for "Knowlis"

Unit IV ; Page 104: In Resources, last paragraph, read "An Adults Guide to Drugs and the Young" instead of An Adults Guide and and the Young"

III. ANALYSIS AND EVALUATION OF CONTENT

A. Assumptions and Rationale : Teacher's Manual (TM) / An excellent analysis of the limitation of scare or fear tactics; persuasively presenting the causal and "alternatives" point of view.

B. Understanding Drug Behavior : (TM) & How to Use.. (TM)

A good point stresses the need for teachers to check with students

regarding variations in drug use patterns -- this is also applicable to drug and youth slang. Pages 16-17 present very important points -- the necessity of flexibility in program placement and especially teacher seledtion. Partial choice of students in this regard may be crucial for success. The idea of a Drug Information Center seems a very good one. Suggestions on page 25 are especially good for teacher-student rapport. The list of "objectives" presented seems reasonable, comprehensive and make a meaningful framework for the curriculum.

UNIT I: This seems a fine and interesting introduction to the whole problem, low key and credible.

Special Comments : page 9, (STUDENT RAP SHEET) or RS. A very nice approach; does not alienate students.

Pps. 17-25 (RS) The notion of historical continuity is executed very well.

P. 37 (TM) : Good emphasis on student involvement and small group interaction.

P. 42 (TM): Very important point made about not "coming on strong;" helpful to teachers for good credibility.

P. 44 (TM): Nice treatment of adult foibles; this balanced approach should be effective. This treatment assisted by learning activities described on page 45.

UNIT II: The model for this Unit is very sound, should be understandable for students, evoking interest. It also gives them a chance to do a little self-exploration. It establishes a good context for the rest of the curriculum.

Special Comments P. 69 (RS) In the list or motives, there seems no mention of motives involving desire for physical or sensory enhancement,

aesthetic and creative experience, or spiritual and philosophical investigation. Such motives may be operating in certain secondary students, and teachers hould be alett to give some legitimization to positive motives operating in drug use, though not in the efficacy of the approach.

page 68 (TM): This issue of confidentiality is exptremely important. The teacher should be especially clear about this, maximiaing the degree of permissible oonfidentiality.

UNIT III : This Unit presents a very adequate oategorization of modes of drug use and classification of drugs. It should be very useful for students.

Special Comments :

Page 85 (RS) This is a very effective creative exercise.

Page 87 (TM) Make sure teachers remain updated on slang terms and do not try to sound "hip" when they are not comfortable with slang.

UNIT IV : This is a well-proportioned and executed Unit. The balance of actual drug abuse effect information within the program seems just right, with flexibility of special student interest being built into possible learning activities. This is a fine format in presenting information.

Special Comments

The Teacher's section is particularly valuable, priming both teacher and student for a consideration of the intereaction between drug abuse behavior and possible life goals.

UNIT V: This unit is at once the logical culmination of the curriculum and also one of its most innovative and creative facets. The learning exercises appear very effective and evocative, and the

value clarification techniques close the loop with the causal behavior model and the effects of drugs. The teacher is given comprehensive help in understanding the notions behind the processes, and given justification for assigning substantial importance to the area of values. Yet, indoing this, the curriculum allows the student to come to his own mode of thinking, even though the context of the curriculum leads him to a positive and self-respecting system of value.

Special comments :

Page 115 (YM): The notion of provision of personal examples is so important, and well stated here.

Page 116 (TM) : In the Dialogue, it is gratifying to see the teacher told of the link between goal setting and behavior change. By this time the teacher should have examined his or her own values with regard to drugs.

Page 120 (TM) : A necessary point is well made regarding the non-imposition of the teacher's verbally professed value standards.

Page 168-175 (RS) : These exercises are particularly well-chosen and executed.

Page 190 (RS) : This is a very good handling of the legal issure; very non-judgmental. The following Value Sheets seem very useful.

Appendices (TM) The Appendices appear well-chosen and help the teacher fill out his knowledge as well as implementing teaching techniques.

IV. MISCELLANEOUS EVALUATION COMMENTS

A. About Length and Sophistication : This seems an empirical question to be answered in the pilot school systems.

B. Group Process Activities : These will probably be an effective and

useful addition to the usual classroom procedures; increased self-relevance always intensifies student interest.

C. Probability of Effectiveness : This also is an empirical question, but it seems likely to be a highly effective program per unit time required.

D. Predicted Reception : One might guess that the content will be better accepted by students than by teachers, depending on the teachers, but it seems hard to find much fault with the basic principles of execution. Teacher selection is a crucial matter, of course. With empathetic teachers, the training process should not be overly burdensome, timewise or otherwise. With authoritarian and unpopular teachers, training may be a waste of money.

E. The feedback intruments should be very useful -- they also give teacher and student a chance to react to the text, making a much more dynamic process.

F. In teacher selection, it is very important to minimize the likelihood that the teacher uses drugs; at the very least, he or she never communicate their use to students. This could put a substantial crimp in the curricular effort.

G. It might be interesting to consider the inclusion of a section on "ecology" perhaps in the drug effect section, to take advantage of current ecological interest. This might involve the comparison of the human body to the Earth, including parallels of ordinary and drug abuse pollution, etc. ; But this should be tied into the value orientation executed later.

V. GENERAL CONCLUSIONS

As reflected in the TEACHERS MANUAL and STUDENT RAP SHEETS, HUMAN_PERSONS

AND THE USE OF PSYCHOACTIVE AGENTS is one of the most promising approaches to drug abuse education within the traditional classroom situation. Given the variability in teaching and school situations, the curriculum does everything a sound approach should do, with inventiveness, logic and compelling organization.

Texts are tools and one can never guarantee their execution, so there are possible failures ahead with inadequate teachers or peculiar student groups. However, this is one of the few programs that does not run the danger of being counter-productive. The students cannot reject or become hostile at this curriculum. At worst, they can ignore it. Even if their immediate attitudes regarding drugs were not significantly altered, their learning in the causality of human behavior and personal value clarification can lay a foundation for considerations of personal identity which might later short-circuit serious drug abuse.

While any curricular exposure should not be expected to diminish experimentation with milder drugs, one has reason to hope that tendencies toward dependency will become part of the student's awareness and that he or she will be led to alternatives to drug abuse much more quickly than by the usual law of trial and error.

The curriculum, on paper, has very few weaknesses. Its ultimate success will probably depend on its flexibility to change after feedback is gotten from teachers and students. There may have to be several necessary variations of the curriculum with regard to special ability, ethnic or age situations, but there seems to be no reason that special

teacher training programs or auxiliary editions could not serve this need.

Respectfully submitted,

Allan Y Cohen

Allan Y. Cohen, Ph.D.
Consulting Psychologyst

American Social Health Association

1740 BROADWAY • NEW YORK, N.Y. 10019 • CABLE ADDRESS: ASHANYINC • TELEPHONE: CIRCLE 5-8000

April 8, 1971

Dr. E. E. Myers
Senior Research Associate
Educational Research Council of America
Rockefeller Building
Cleveland, Ohio 44113

Dear Dr. Myers:

I have gone through the material on drug abuse developed by the Educational Research Council of America. I think that the material sets forth some very careful and useful ideas for teaching about drug abuse. The reference to specific publications, the exercises, the employment of sophisticated concepts like risk -taking behavior and the stress on options available to the young person all contribute to a very valuable series of materials.

In any revision which you might be making in this material, you might want to consider the recent book by Henry L. Lennard and his associates, published by Jossey-Bass and called "Mystification and Drug Misuse. The enclosed summary of some of the book, from Science, may be of of interest.

I have borrowed your materials from our regional director, Larry Merrill, and would appreciate your sending a set to me. I would be happy to pay any charge that is in order.

Sincerely yours,

Charles Winick, Ph.D.
Director
Program in Drug Dependence and Abuse

CW:fp

Member: National Assembly for Social Policy and Development and National Health Council

American Social Health Association

1740 BROADWAY • NEW YORK, N.Y. 10019 • CABLE ADDRESS: ASHANYINC • TELEPHONE: CIRCLE 5-8000

November 8, 1971

Dr. Eddie E. Myers
Senior Research Associate
Child-Educational Psychology
and Preventive Psychiatry
Educational Research Council of America
Rockefeller Building
Cleveland, Ohio 44113

Dear Dr. Myers:

I have carefully gone over the Teachers' Manual and the Student Rap Sheets for Human-Persons and the Use of Psychoactive Agents. This is a very careful and valuable publication, among the very best available.

I have admired Dr. Ojemann's ideas ever since I met him some years ago in connection with his studies on children's perception of television and I am delighted to see how well his ideas relate to education about drug abuse.

I have a few typographical observations, as follows:

Teachers' Manual

Page 40, Banton, should be Boston
Page 48, Guffenhazen, should be Griffenhagen
Page 74, Bantum, should be Bantam
Page 90, Knowles, should be Nowlis
Page 100, Glereck, should be Glueck

Student Rap Sheets

Page 133, Knowles, should be Nowlis

It might be useful to give more information on the publications by Dr. Ojemann (page 57) and Dr. Maslow (page 57), in the Teachers' Manual.

In terms of substantive contents, I wonder if there might be a little more on the relationship between rock music performers and drugs, over and above the Time story about Janis Joplin. The Joplin story may convey the feeling that she was unique, whereas in fact Bob Dylan, the Beatles, the Jefferson Airplane, and many other groups celebrated drug use in the lyrics of their music and there was a whole tradition of relating drug use to appreciation of the music. We cannot say if the drug use reflected the content of the lyrics or vice versa and perhaps it is "square" to raise the issue, but I think it is a significant one, especially since it is becoming historical.

Let me again say how impressed I was with the clarity and care with which the basic notions set forth in these two publications are explicated.

Sincerely yours,

Charles Winick

Charles Winick, Ph.D.
Director
Program in Drug Dependence and Abuse

CW:fp

North Texas State University
Denton, Texas

For general educational purposes you materials are excellent. The content and the teaching methods are excellent for helping students who are borderline in respect to drug use. I am confident they must be the best available. The reading references and the films are the most complete I have seen.

In respect to seriously potential drug users and those already on drugs--I believe the course would definitely be helpful but I am afraid it will fall short of expectations. As you well know, drug users, alcholics, etc. are all very impervious to sound reasoning, the consequences of their present behavior, facts, and objective evidence. Many of them "confess their sins," say they are sorry, "it will never happen again," and mean all this at the time they say it, but are subsequently overwhelmed by their sense of failure, sexual inadequacies, inabilities to cope with reality demands, need for immediate release from their anxieties, etc. All this you state in your materials, but will knowing more facts, discussing personal problems, and trying to list goals, -- make an appreciable dent in the students' motivational whirlpool? If this can be done I believe your approach will be the one to do it, but it seems to me the cognitive approach should be supplemented by more behavioral methods. The best results for all concerned are most likely to be attained when the cognitive and behavioral approaches are integrated.

What do I mean by Behavioral? I mean getting the seriously potential drug users and the actual users involved in school and community pursuits, projects, and programs so that they will have a good chance of finding some reality satisfactions and perhaps some long-range goals. You often mention in your content about having the students list their goals, purposes in life, etc. In regard to the kinds of students mentioned above,

I believe one of their chief problems is that they do not have goals or life purposes--regardless of social class level. Will they arrive at these by being asked to list what they can come up with, or by having an intellectual discussion about goals? Would it not be more to the point if they could be induced, along with others, to get their feet and their minds tangled up in genuine endeavors? I believe goals emerge from activities and experiences much more than from a frontal intellectual attack. I have in mind such involvements as:

The challenge program of the Boy Scouts thru which older boys are linked up with successful business and professional men for learning on the job experiences. Many of these have worked out exceptionally well.

Aides in a hospital.

A baby-sitting service forworking mothers--in the evenings.

Working with school personnel to help plan changes in school programs.

Student sponsored arts and crafts fair at school or in a church.

A part-time job agency for students needing money. Jobs discovered and listed by students.

A jointly sponsored effort between two schools or churches to set up a recreational program, clean up project, etc.

Help in voter registration of minority groups.

Initiate activities for integrating more students into the participating stream of school life--junior and seniors may take responsibility for groups of freshman, or new students.

Some older capable students act as study aids for poorer students.

Start and manage a drug information center for the community--put on radio programs.

Start a program of young people helping their peers to find the kind of help they need--as you suggest on p. 158.

As you well know, work with parents is often essential to accomplish anything in changing a drug user. Obviously this takes many forms, but one certainly is to get the parents to quit giving the boy or girl money, cars, and other "hand outs" which increase the young person's dependency behavior. In a few cases I have worked with here, this has been a determining factor.

You are familiar with all these and many more kinds of activities. The boy you interviewed and taped is an example. What is needed is anything which would induce these potential drug users to find goals and purposes thru genuine involvement in a task with other peers whom they like, and with significant adults whom they admire. As you know, many of these young people--including the hippies--are drifters and drop-outs and actually have no goals for tomorrow or next year. All people are more likely to be inspired to work for some kind of heaven than to avoid some kind of hell. Your materials have this emphasis in stressing choices for a better life as opposed to playing up fear, but can the students who are very poor in psychological resources come up with better choices without a lot better ground in socially significant experiences? Is not a good choice a figure on a ground--to use Gestalt terms? Can a student lift himself by his own bootstraps?

You know the 12th step in AA asks the alcoholic to go out and work to bring in other alcoholics. At last he is doing something for others, instead of himself being the object of being saved. Many believe the AA program is not fully effective for those who don't go thru the 12th step. The Golden Rule is not only true as it is but should also be reversed.

I realize that the kind of efforts outlined above may be taken care of by other agencies within the schools. If so, OK, but I believe all this needs to be considered in evaluating the particular contribution of the kind of course you and your staff have outlined.

Student Feedback

TOLEDO AREA PROGRAM ON DRUG ABUSE

INCORPORATED AS THE BRIDGE, INC.

Operating Base:
FAMILY LIFE EDUCATION CENTER
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DRUG EDUCATION
Toledo Public Schools

A pilot drug and human behavior course was taught for six weeks during November and December, 1971, at Libbey High School. The curriculum entitled "Human Persons and the Use of Psychoactive Agents" was cooperatively prepared by the State of Ohio, Department of Education, and the Educational Research Council of America.

The following are selected comments obtained in response to the teachers' periodic request for student evaluation of the course:

...The thing I really enjoy in this class is the small groups. When I'm in the group taking part with something worthwhile, I get a certain satisfaction knowing that by being in the group I will find out a little more about myself. I say thank you for helping me find out about myself.

...Myself I have hang-ups about parents and such just as the classmates were complaining of. And I also thought I was terribly badly treated and that everything I didn't like was unfair. But all of a sudden or maybe slowly it happened. Suddenly all the gripes I had seemed to disappear, and it wasn't that my problems disappeared, I think I just put them into their proper perspective.

...Since the class began it has made me stop and think and take a lot of points into consideration before I make a final decision.

...I think that the part of this course I liked the best was the part about behavior. Even though I don't act interested, I really am. I just don't like to talk in class a lot because I usually get things confused when I talk. I liked the discussions (some of them) and they made me think. I like to have something new to think about.

...I like the class for what it is. What I mean is I like the way the class is conducted. The name of the class is Drug Abuse, but it seems like we tend to get away from the drug part of it and get more into the people and their actions. I say this because this is the way it should be taught. I can easily get into the class. It seems as though I, or my opinion, is welcomed so I say more, because I'm not put down for what I say.

...I'd just like to say that I've really appreciated this course. I've enjoyed the program and I've learned a lot about things that I couldn't figure out before. You see I'm one of these people who let's everything get me down. No matter how small a problem is, I make it 4 times as big. That Maslow thing has made a few things clear in my head, too. Needless to say, the course hasn't made me stop worrying about everything but it does make me stop and say, "Heh, is this problem big enough to flip over?" "Or, is it worth getting myself down about?" I think that if this course could be broken down and taught to kids in grade school and shown to them in a way they could understand it that there would be a very great chance that we'd have a lot more people (when they grow up) that have less hang ups and have to turn to drugs or alcohol to make life easier for them. This is really a heavy program and I hope it can be continued. I think I can speak for most of the people taking this course and say thanks to you and the Board of Education.

...I enjoyed the class, it is very interesting and we have done some interesting things. I just haven't commented much because I don't talk much in school or out, but I have tried to make comments.

1/72

Summative Evaluation

Stage I

As a part of the curriculum development process, prototypes of the senior high school drug education program entitled Human-Persons and the Use of Psychoactive Agents were taught during the latter part of the 1971 spring semester in Dayton Stivers High School, Dayton, Ohio, and Lima High School, Lima, Ohio. In Lima an experimental-control, pretest-post-test evaluation design was implemented. In Dayton, because of the lack of adequate control groups, only an experimental pre- and post-test evaluation design was followed.

MEASURING INSTRUMENTS

Behavior Knowledge Test (Senior High)

The Behavior Knowledge Test is a 16-item measure of the student's ability to apply basic understandings of human behavior, such as the concepts of causality, motivation, and probable consequences of selected behaviors. A multiple-choice test, it is the result of extensive item analyses of a 25-item measure originally developed in 1969 by Dr. Eddie E. Myers.

Drug Knowledge Test (Senior High)

The Drug Knowledge Test measures the student's knowledge of the effects of commonly used drugs. It is a brief, 16-item multiple choice test refined from a 25-measure test developed by Dr. Myers in 1969.

Developmental Attitude toward Drugs Scale

This attitude scale has 49 items that were derived from two 12-question open essay questionnaires administered to ninth-grade students in the fall of 1969. Students were asked for their open responses to questions in areas found significant in drug abuse research, such as feelings about drug use and abuse, attitudes toward fellow students and significant areas of the school, personal time perspective, and purpose in life. From these responses, items have been developed to measure (1) the student's orientation toward the use of a number of commonly abused drugs, (2) the degree of causality vs. judgmentalism he applies to drugs and drug use, (3) his orientation toward adults and the school, and (4) his identification with the drug culture.

The student responds on a 5-point scale from "Strongly Agree" to "Strongly Disagree." On some items he receives credit for agreement with the item, and on others credit for disagreement. His total score is the summation of his credits.

SAMPLE

Lima

The Lima experimental group was composed of two classes randomly selected from students in the fifth- and sixth-period study halls at Lima High School who were interested in taking the special nine-week course in

drugs. The control group was randomly selected from those in the fourth-period study hall who had also expressed an interest in taking the course.

Preliminary analyses indicated that there was no significant difference between the three groups at pretesting on the criterion measures.

Dayton Stivers

The Dayton Stivers experimental group was composed of students in a health class and in a social studies class being taught by two of the project teachers. Forty students, predominantly seniors, comprised the group.

RESULTS

Behavior Knowledge

TABLE I

Comparisons of the Behavior Knowledge Pre- and Post-Tests

	Pretest			Post-test				
	$\bar{X}$	S	n	$\bar{X}$	S	n	diff.	t
Lima Experimental	8.524	2.692	42	8.905	2.715	42	.381	1.107(NS)
Lima Control	7.952	2.299	21	8.286	2.962	21	.333	.602(NS)
Dayton Experimental	8.850	1.918	40	9.00	2.179	40	.15	.495(NS)

As noted in Table I, there was no significant change in the student Behavior Knowledge Test Scores between pre- and post-testing. Apparently the experiences of both the experimental groups failed to provide the students as

a group with a significantly increased ability to apply the concepts of human behavior studied as a part of the program. There was a slight increase for the two experimental groups and the control group in Behavior Knowledge Test Scores, but the change was not statistically significant. It is quite possible that since the content and activities of the units designed to teach the materials are new to the teachers, insufficient time was given in attempting to develop the understandings in this area. These results indicate the need for extensive preparation of the teacher in the understanding of the causes of human behavior and the application of these understandings to real life situations.

Drug Knowledge

TABLE II

Comparison of Drug Knowledge Pre- and Post-Tests

	Pretest			Post-test				
	$\bar{X}$	S	n	$\bar{X}$	S	n	diff.	t
Lima Experimental	7.651	2.675	42	9.511	3.143	42	1.860	5.049**
Lima Control	8.571	2.441	21	9.143	3.314	21	.572	.890(NS)
Dayton Experimental	8.225	3.228	40	9.025	3.142	40	.80	2.038*

*P = $<$.05
**P = $<$.001

As noted in Table II, there was a significant increase in Drug Know-

ledge Test Scores for both experimental groups between pre- and post-testing, while the control group's increase was not statistically significant. The experiences provided the experimental groups apparently did give them significantly greater knowledge about drugs and their effects, a positive finding.

TABLE III

Comparison of Developmental Attitude Pre- and Post-Tests

	$\bar{X}$	S	n	$\bar{X}$	S	n	diff.	t
Lima Experimental	188.045	15.855	42	183.628	17.879	42	-4.777	1.280(NS)
Lima Control	185.571	15.367	21	177.381	18.515	21	-8.190	2.698*
Dayton Experimental	190.275	17.372	40	186.35	15.282	40	-3.925	1.549 (NS)

*P = $<.02$

As noted in Table III, the major effect of the drug education experience was in its ability to sustain student attitudes, causing students to be more resistant to the deterioration of student attitudes that occurred in the Lima Control Group. Neither the Lima Experimental Group, the primary comparison group for the control, nor the Dayton Experimental Group decreased significantly in developmental attitudes relating to drug use and abuse. The findings for the control group generally coincide with high school teacher observations that student attitudes do tend to deteriorate significantly between April and the end of school in June.

In addition to comparisons between the experimental and the control

groups on total attitude scores, comparisons between the Lima experimental and the control groups were made on each of the 5-point scale items of the attitude questionnaire to determine whether or not there were specific attitude items in which the classes as a group responded differently on the post-test. On the following four items, the difference was in the desired direction for the experimental group, as noted below:

Key: SA = 1 A = 2 N = 3 D = 3 SD = 5

Item:

166. We should think of both the future and the present.

	X	S	diff.	t
Lima Experimental	1.698	.850	.427	1.74883*
Lima Control	2.125	1.092		

171. Nothing I do helps to solve my problems.

Lima Experimental	4.0	.863		
			.5	2.153*
Lima Control	3.5	.957		

178. Legal drugs, such as aspirin, Nytol, cough syrup, and No-Doz cannot possibly be abused.

Lima Experimental	4.372	1.012	.455	1.69815*
Lima Control	3.917	1.077		

182. I don't care what other people do as long as it is not to me.

Lima Experimental	3.628	1.057	.503	1.893*
Lima Control	3.125	.971		

*P = $< .05$ (one tailed test)

STAGE II

In order to provide a more adequate evaluation of the senior high curriculum, a much more extensive field testing program was designed for the school year 1971-1972.

MEASURING INSTRUMENTS

Behavior Knowledge Test

The Behavior Knowledge Test is a sixteen-item measure of the students' ability to apply basic understandings of human behavior, such as causality, motivation, and probable consequences of selected behaviors. A multiple choice test, it is the result of extensive item analyses of a twenty-five item measure originally developed in 1969 by Dr. Eddie Myers. Reliability of the measure in test-retest over a nine-week period was found to be $r = .76$.

Drug Knowledge Test

The Drug Knowledge Test measures the students' knowledge of the effects of commonly abused drugs. It is a sixteen-item multiple choice test refined from a twenty-five item measure developed by Dr. Eddie Myers in 1969. Reliability of the measure in test-retest over a nine-week period was found to be . 87.

Developmental Attitude toward Drugs Scale (Revised)

The Developmental Attitude toward Drugs Scale is a 45 item questionnaire to which the student responds on a five-position scale from Strongly Agree to Strongly Disagree. On some items he gets credit for agreement, and on others credit for disagreement. Both a total score and sub scores are derived from the scale.

Items from this attitude scale were derived from two twelve-question open essay questionnaires administered to 120 ninth-grade students in the Dayton and Lima Public School Systems in the fall of 1969. Students were asked for their open responses to questions in the areas found significant in drug abuse research, such as feelings about drug use and abuse, attitudes toward fellow students and significant aspects of the school, personal time perspective, and purpose in life.

From these responses, items were developed to measure the student's orientation toward the use of a number of commonly abused drugs, the degree of causality vs. judgmentalism he applies to drug use and abuse, his orientation toward adults and the school, and his identification with the drug culture. The questionnaire was refined through item and factor analysis studies in 1970 and in 1971 until it reached its current form.

The total score is gained by: 1) assigning 1 through 5 points from Strongly Agree to Strongly Disagree on the following items:

151, 152, 154, 156, 157, 160, 164, 166, 167, 169, 170, 171, 172, 173, 174, 175, 176, 179, 180, 181, 184, 187, 190, 193, 195.

2) assigning 5 through 1 points from Strongly Agree to Strongly Disagree on the following items:

153, 155, 158, 159, 161, 162, 163, 165, 168, 177, 178, 182, 183, 185, 186, 188, 189, 191, 192, 194.

3) Summing the assigned scores.

It might be noted that the score reflects the summation of numerous attitudinal predispositions related to a more developmental attitude toward drug use and abuse, not just the degree of polarity (+ or -) in relation to drugs.

For the above reason, that within the total score there are smaller constellations of attitude, a more extensive examination of the subsets is needed to adequately assess the source of change in the total score.

For this reason the measure was administered to 526 high school students selected from grades 9 through 12 and from four different types of high schools - inner city, peripheral, suburban, and parochial. The results were submitted to factor analysis,and seven factors were identified that come very close to those that had been used as a basis for item selection in the original questionnaire. In the factor analysis,responses were coded 1 through 5 from Strongly Agree to Strongly Disagree. Therefore a minus sign before the

factor loading indicates that, to develop a subscore on that factor, the point assignment should be reversed to a 5 to 1 point credit from Strongly Agree to Strongly Disagree.

The factors and the items which contributed ± .30 to each factor are listed below:

Loading		Factor I - Causal Approach to Problem Solving (Maximum score:35)
-.64	192.	If you are having a problem, it helps to find out what is causing it.
-.54	191.	Overuse of some of the legal drugs --- aspirin, No-Doz, cough syrup --- can be very dangerous.
-.42	186.	It is possible to learn why a person uses drugs.
-.42	185.	Research on drugs is important if we are to gain useful drug information.
-.40	183.	No one can expect life to be exciting and interesting all the time.
-.39	177.	If you don't like things the way they are, you should work to change them.
-.39	194.	I can see why some people use drugs.
		Factor II - Altruism - Non-judgmental-Causal (Maximum score:45)
.68	173.	If people want to destroy their bodies by taking drugs, they can, I don't care.
.65	171.	I don't care what other people do as long as it is not to me.
.61	169.	If someone is taking drugs, you should look the other way.

.60	156.	I don't want anyone around me who takes drugs, because everyone who takes them is trash.
.59	179.	People who take drugs should be punished or locked up.
.58	174.	Users of drugs such as heroin are beyond help.
.56	172.	When deciding whether or not to use drugs, all a person needs to know is whether it is legal to use the drug.
.47	176.	To stop people from taking drugs, all we have to do is pass more laws.
.31	154.	All drugs should be destroyed and burned.

Factor III - Drug Orientation (Maximum score:50)

.70	165.	I will not use a drug if research shows that it is harmful to the body.
-.66	181.	LSD can help a person get more out of life.
-.65	151.	Marijuana can help a person get more out of life.
.66	153.	Even though a drug might give a person a kick, if it damages my body or mind, I would not use it.
.56	163.	LSD can ruin a person's life.
-.47	190.	Glue sniffing is O.K.
-.42	166.	Glue sniffing is not likely to harm the body.
-.32	194.	I can see why some people take drugs.
.31	154.	All drugs should be destroyed and burned.
-.30	170.	It is cool to cop out.

Factor IV - Life Interest (Maximum score:25)

-.71	162.	Life is full of interesting and exciting experiences.
.53	164.	Life is mostly a bore.
-.50	168.	Life is good or bad depending upon what I make of it.
.47	184.	The world we live in is a pretty lonesome place.
.28	180.	It would have been better if I had never been born.

Factor V - Time Orientation (Maximum score:25)

.69	193.	Life should be lived day by day, without looking ahead a year or so.
.69	175.	You should think only about the present because you don't know about the future.
.68	157.	Tomorrow usually takes care of itself.
.49	152.	Planning for tomorrow spoils today.
-.24	155.	We should think of both the future and the present.

Factor VI - Alienation from Adults (Maximum score: 30)

.62	159.	When I have a problem, I talk to my parents about it.
.56	188.	What my parents think about drugs is important to what I think about drugs.
.55	182.	If people don't care about themselves, they should talk to an older person.
.41	161.	I believe that talking with an interested adult can help me solve some of my more difficult problems.
.34	189.	My classroom learning experiences are definitely going to help me reach my personal goals in life.

.30	176.	To stop people from taking drugs, all we have to do is pass more laws.

Factor VII - Goal Orientation (Maximum score: 15)

.74	187.	I have not thought much about my goals in life.
.62	195.	I am not at all pleased with my goals in life.
.32	180.	It would have been better if I had never been born.

Developing Sub Scores

For each of the factors above, assign either the 1 through 5 (for those with positive loadings) or the 5 through 1 (for those with negative loadings) points from Strongly Agree to Strongly Disagree.

Based on the objectives of our program, we have considered an increase on the following factors to be considered as indicative of the realization of program objectives:

Factor I - Causal Approach to Problem Solving

Factor II- Altruism and Non-judgmentalism

Factor IV- Life Interest

Factor V -Time Orientation

Factor VII - Goal Orientation

A decrease on the following factors was considered as positive, indicative of the realization of program objectives:

Factor III - Drug Orientation

Factor VI - Alienation from Adults

It should be noted that the scoring procedure for the total score and for the sub-scores is different, primarily because of Factors III and VI, whose increase would not be considered developmental.

SAMPLE

In order to obtain a broadly based evaluation of the curriculum, designs were developed separately for each of the test site areas - Lima, Toledo, and Dayton.

Lima

Lima Senior High School is the only public high school in the city district. It has a population of approximately 1800 students. The decision was made by the administration to field test the curriculum as a part of the tenth-grade health program. Since students are randomly assigned to physical education or health for the first semester and health or physical education the second semester, the course taught to the health classes comprised the experimental groups, and the physical education classes comprised the control groups for the first semester. As the changes were made at the end of the semester, the group which was the control group became the experimental group. The experimental group, therefore, was its own control, as the first semester scores were compared to the second

semester scores to determine the effect of the experimental treatment.

Each experimental class received a minimum of 25 and a maximum of 35 class periods of introduction.

Toledo

To approximate a stratified sample from the Toledo area, classes were selected from each of the following populations:

a) Inner-city, predominantly black student population

b) Peripheral, with student population in transition from predominantly white to majority black

c) Suburban, predominantly white student population

d) Parochial, with integrated predominantly urban student population

Descriptions of the experimental and control classes are as follows:

A. Experimental: Two classes of students from a senior high level social problems class, five periods per week.

Control: One class of students from senior level economics course taught by the same teacher.

Inner City	B. Experimental: One class of seniors in a humanities course, five periods per week. Control: One class of seniors in a humanities course, working in a different area, same teacher as experimental.
Peripheral	C. Experimental: Eight classes of ninth-grade health meeting five days every two weeks, all boys. Control: One class of ninth-grade students taking physical education from the experimental teacher (boys). D. Experimental: Four classes of ninth-grade health meeting five days every two weeks, all girls. Control: Two classes of ninth-grade physical education taught by experimental teacher.
Suburban	E. Experimental: Two classes of seniors in a family living course, five periods per week. Control: One class of students from a sociology class taught by different teacher.
Parochial	F. Experimental: One class of ninth-grade health students, three periods per week. Control: One class of ninth-grade physical education students, comparable to the experimental class.

G. Experimental: One class of physiology students, juniors and seniors, five periods per week.

Control: One class of physiology students studying in different areas, taught by experimental teacher.

Each experimental class received a minimum of 25 and a maximum of 35 class periods in instruction.

Dayton

Similar to the design followed by the field testing sites in Toledo, classes were selected from each of the following student populations:

a) Inner-city, predominantly white Appalachian student population

b) Inner-city, predominantly black student population

c) Peripheral, with student population changing from predominantly white to majority black student population

d) Suburban, predominantly white student population

Because of the disruption within the school system caused by tax levy failures, field testing was held during the first part of the second semester.

Descriptions of the experimental and control classes are as follows:

A. Experimental: Five classes of ninth-grade health (boys),

Control: Originally scheduled to be ninth- physical education students. However, the experimental teacher failed to post-test the control group; therefore comparisons will be made with the most comparable group, those students who also comprise the control group for teacher D.

Inner City Black

B. Experimental: Three classes of senior social problem s students.

Inner City White

Control: Two classes of senior economics students, taught by same teacher.

C. Experimental: One class of senior social studies students.

Control: One class of senior social studies students taught by the same teacher.

Peripheral

D. Experimental: One class of health students.

Control: One class of physical education students taught by experimental teacher.

E. Experimental: Two classes of health students (boys).

Suburban

Control: Two classes of physical education students (boys).

F. Experimental: Two classes of health students (girls).

Control: Two classes of physical education students (girls).

Each experimental class received a minimum of 25 and a maximum of 35 class periods of instruction.

RESULTS

Prior to the reporting of the results, one of the limiting factors in data collection should be noted. At the high school level, obtaining honest responses to instruments becomes a major difficulty. At all socioeconomic levels, there was considerable evidence of random responses to items and, as reported by teachers, deliberate marking of answer sheets without consideration of the items. In some cases the names on the answer sheets gave a clue to the lack of effort given to item responses, as they were signed by "Humpty Dumpty," "Alice in Wonderland," etc. Research analysts examined all answer sheets and discarded those that were obviously faked, such as those that had item #3 on all items for a test. On occasions the IBM answer sheets were coded in such a way to make a special design on the answer sheet.

To be included in either the experimental or control groups, both the three pretests and the three post-tests had to be completed by the student.

The tendency for students to respond to other paper and pencil tests, such as achievement and other measures, in such a manner is not uncommon at the high school level, according to teachers. It is suggested that research be initiated to further explore the extent and causes for such behaviors. It is not within the scope of this paper to hypothesize concerning probable causes of this particular phenomenon.

Lima

Fall Field Testing

Behavior Knowledge, Drug Knowledge, and Total Attitude Measures

Group		Behavior Knowledge				Drug Knowledge				Total Attitude			
		Pre	Post	diff	t	Pre	Post	diff	t	Pre	Post	diff	t
=258	X	7.59	8.17	+.58	3.66**	6.94	8.21	+1.27	6.92**	168.80	169.86	+1.06	1.00
	s.d.	2.39	2.82			2.76	3.32			20.52	20.64		(NS)
=205	C	7.05	6.95	-.10	.42	6.55	6.47	-.08	.35	162.41	159.07	-3.34	2.58**
	s.d.	2.23	2.23		(NS)	3.19	3.63		(NS)	24.63	24.45		

Spring Field Testing

-142	X	6.82	8.41	+1.59	7.20**	6.24	8.63	+2.39	8.86**	159.39	171.68	+12.29	6.02**
		2.78	2.79			3.14	4.03			24.94	22.68		
=157	C	7.19	6.82	-.37	1.68* (NS)	6.56	6.21	-.35	1.67**	164.72	159.39	-5.33	3.34**
		2.19	2.78			3.10	3.14			24.09	24.94		

- P ⟨ .05 (one-tailed test)

- P ⟨ .01

Results of the above measures indicate a significant increase in behavior knowledge and drug knowledge for both the fall and spring experimental groups. The control groups did not change significantly on these two measures in the fall testing, but decreased significantly on one in the spring. On the attitude total scores, the fall experimental group, although increasing the mean score, did not change significantly; on the other hand, the control group decreased in total attitude scores in the fall testing. In the spring testing, the experimental group increased significantly and the control group decreased significantly on the total attitude scores.

The above indicates positive effects ($P < .05$) upon student drug knowledge, behavior knowledge, and developmental attitudes in the experimental groups on all measures in both the fall and spring field testing.

In order to gain additional information as to the major sources of change within the attitude measure, factor scores were developed and compared (see description of measuring instruments). Although the sub-scores developed may be somewhat less reliable than the total attitude score, use of these scores tends to increase sensitivity to changes which may be taking place within the various components of the developmental attitude constellation. These factors are as follows:

Factor I - Causal Approach to Problem Solving (Maximum score:35)

II- Altruism - Non judgment/Causal Approach to People(Maximum score

* III - Orientation toward Drugs (Maximum score: 50)

IV - Life Interest (Maximum score:25)

V - Time Orientation (Maximum score:25)

* VI - Alienation from Adults (Maximum score:30)

VII - Goal Orientation (Maximum score:15)

*A decrease in these factors was considered as positive, indicative of the realization of program objectives. In all other factors, an increase was considered as a positive result.

TABLE II

Attitudinal Factor Scores

Lima

Fall			I				II				III				IV			
			Pre	Post	diff	t	Pre	Post	diff	t	Pre	Post	diff	t	Pre	Post	diff	t
N=258	X	M	26.99	27.09			33.05	34.12			23.97	24.55			19.99	19.81	.18	.95
					+.10	.34			+1.07	3.19**			+.58	1.94*				(NS)
		s.d.	4.24	3.55		(NS)	6.30	5.64			5.62	5.08			3.37	3.55		
N=205	C	m	26.22	25.58			31.91	31.30			24.38	25.82			18.74	18.25	.49	1.98
					-.64	2.10**			-.61	1.37			+1.44	3.87**				
		s.d.	4.31	4.34			6.49	6.58		(NS)	6.53	6.10			4.12	4.10		

	V				VI				VII			
	Pre	Post	diff	t	Pre	Post	diff	t	Pre	Post	diff	t
X	15.56	15.87			17.14	17.77			11.26	11.30		
			+.31	1.75*			+.63	3.04**			+.04	.21
	3.21	3.04			4.00	3.37			2.62	2.72		(NS)
C	15.25	15.16			17.52	17.12			10.79	10.25		
			-.09	.39			-.40	1.40			-.54	2.77*
	2.94	3.15		(NS)	3.62	3.92		(NS)	2.87	2.98		

*P < .05 (one-tailed test)
**P < .01

	I				II				III				IV			
	Pre	Post	diff	t	Pre	Post	diff	t	Pre	Post	diff	t	Pre	Post	diff	t
Spring																
N=142X	25.54	27.59			31.41	34.77			25.64	24.27			18.18	19.92		
			+2 05	5.13**			+3.36	6.42**			-1.37	2.95*			+1.74	5.51
	4.51	3.41			6.69	5.89			6.19	5.15			4.18	3.60		
N=142C	26.50	25.54			32.52	31.41			24.40	25.64			18.75	18.17		
			-.96	2.67**			-1.11	1.98*			-1.24	3.05**			-.68	1.88
	4.03	4.51			6.44	6.69			6.46	6.19			4.03	4.18		

		V				VI				VII			
		Pre	Post	diff	t	Pre	Post	diff	t	Pre	Post	diff	t
	X	15.23	16.43			16.96	17.13			10.18	11.39		
				+2.94	4.47**			+.17	.44			+1.21	4.79**
		3.14	2.71			4.28	3.54		(NS)	3.05	2.52		
	C.	15.13	15.23			17.52	16.96			10.79	10.18		
				+.10	.49			-.56	1.65			-.61	2.73**
		2.86	3.14		(NS)	3.72	4.18			2.96	3.05		

As noted in Table II, students in the Lima fall experimental group increased their attitude scores significantly ($P < .05$) in Factor II (Altruism) and Factor V (Time Orientation), while the students in the control group did not change significantly on these two factors. In Factor I (Causal Problem Solving), Factor IV (Time Orientation), and Factor VII (Goal Orientation) the fall experimental group experienced no change, while the control group decreased significantly ($P < .05$) on all three factors. Both of the above indicate significant positive effects of the program on five of the seven factors.

On Factor III (Orientation toward Drugs), both the experimental and the control groups increased their scores significantly, although the increase for the experimental group was not as large as the increase for the control group. From this it may be concluded that the program failed to influence the increased orientation toward drugs of the total population.

It might be noted, however, that even though students in the experimental and control group did increase in drug orientation scores, the pretest and the post-test scores for both the experimental group and the control group in the fall field testing were not pro-drug oriented. In a five-point scale with 1 being strongly anti-drug, 5 strongly drug, and 3 neutrally oriented, the means for the experimental and control groups were 2.45 and 2.58, respectively. Approximately ninety-eight percent of the sample responded with either the desired 1 or 2, or the neutral item 3 on the items in this subscore.

Perhaps a more adequate way of describing what occurred when both groups increased significantly in drug orientation scores is to state that both the experimental and the control groups were less negative in their attitudes toward drug use, which may or may not mean a more positive orientation toward drugs.

The results from the fall field testing still indicate that the objectives were not attained on this particular attitudinal variable (that is, a decrease in drug orientation scores did not occur), but it would be a disservice to those students tested to fail to note that the tendency of the group as indicated by the mean scores was to disagree with those items which were of a pro-drug nature and agree with these which were of an anti-drug abuse nature.

A negative finding was discovered in the results from Factor VI (Alienation from Adults). The experimental group increased on this factor, while the control group experienced no change. It is possible that as the experimental group was considering occasions of drug use, even though the emphasis was upon understanding people, the group felt less comfortable in discussing their problems with adults.

The Lima spring testing, in which the students served as their own controls (the fall control group became the spring experimental group) revealed the desired results on six of the seven factors for the experimental group. Increases in Factors I, II, IV, V, and VII and the decrease in Factor II were

statistically significant, a positive finding. On Factor VI there was no change. Examination of the control group results highlights even more the effects of the program, as the control group scores decreased significantly on Factor I, II, IV, V, and VII and increased on Factor III, completely opposite from the experimental group's progress. The control group did nct change significantly on Factor VI, as was also the case for the experime ntal group.

TABLE III

Results of Behavior Knowledge, Drug Knowledge, and Total Attitude Scores

Group		Behavior Knowledge				Drug Knowledge				Total Attitude			
		Pre	Post	diff	t	Pre	Post	diff	t	Pre	Post	diff	t
A Exper N=20	M	7.25	8.15	+.90	2.65**	7.75	8.60	+.85	1.12(NS)	166.75	171.70	+4.95	1.42(NS)
	s.d.	1.59	2.23			3.52	3.00			14.99	13.06		
Control N=15	M	8.53	8.60	+.07	.14(NS)	7.93	8.07	+.14	.22(NS)	181.00	176.53	-4.47	1.41(NS)
	s.d	1.51	1.92			3.24	2.60			13.77	17.55		
B Exper N=19	M	8.42	8.68	+.26	.61(NS)	8.00	9.95	+1.95	3.95**	178.05	178.26	+.21	.12(NS)
	s.d.	1.87	2.16			2.60	3.31			12.18	13.79		
Control N=21	M	7.19	8.19	+1.00	3.24**	7.52	7.71	+.19	.34(NS)	173.00	163.22	-4.38	2.43*
	s.d.	2.20	2.25			2.32	2.67			16.68	20.62		

*P < .05 (one-tailed test)
**P < .01

C Exper. N=167	M	6.90	8.26	+1.36	7.33**	6.54	9.44	+2.90	14.43**	167.83	173.89	+6.06	4.44**
	s.d.	2.42	2.59			2.80	2.77			16.87	18.82		
Control N=18	M	7.95	5.79	-2.16	2.69**	8.68	6.37	-2.31	2.71**	175.63	162.79	-12.84	2.33**
	s.d.	2.78	2.37			3.04	3.88			18.15	23.54		
D Exper. N-82	M	8.32	8.26	-.06	.22(NS)	7.62	8.57	+.95	3.04**	174.62	172.96	-1.66	1.00(NS)
	s.d.	2.30	2.24			2.72	2.94			14.81	18.71		
Control N=32	M	6.69	7.63	+.94	2.35*	5.75	6.19	+.44	1.10(NS)	167.75	169.31	+1.56	.59(NS)
	s.d.	2.13	2.39			2.62	2.69			17.77	20.98		
E Exper. N=40	M	7.55	7.35	-.20	.58(NS)	7.80	6.30	-1.50	2.59**	171.53	162.52	-9.01	3.01**
	s.d.	2.22	2.74			3.63	3.98			18.17	20.67		
Control N=11	M	7.18	7.73	+.55	.75(NS)	7.36	7.37	0	0(NS)	170.55	163.36	-7.19	1.94*
	s.d.	2.68	2.53			3.47	2.16			10.31	8.15		

F Exper. N=29	M	9.34	9.83	+.49	1.44(NS)	7.17	9.10	+1.93	5.07**	185.59	183.48	-2.11	.66(NS)
	s.d.	2.16	2.14			1.77	2.34			10.23	14.97		
Control N=27	M	8.41	8.19	-.22	.42(NS)	7.04	7.19	+.15	.30(NS)	182.48	177.78	-4.70	2.14*
	s.d.	2.26	2.45			2.82	2.59			12.62	15.94		
G Exper. N= 23	M	9.83	10.39	+.56	1.77*	9.26	9.91	+.65	1.07(NS)	181.17	181.74	+.57	.29(NS)
	s.d.	1.67	1.78			2.94	3.07			12.42	14.39		
Control N=	M	9.28	8.28	-1.00	2.77**	8.36	8.52	+.16	.31(NS)	177.72	173.52	-4.20	1.96*
	s.d.	1.88	1.63			1.85	3.14			15.26	16.57		
Total Exper. N=380		7.73	8.43	+.70	5.84**	7.26	8.91	+1.65	10.38**	172.30	173.81	+.51	1.73*
		2.43	2.51			2.94	3.12			16.50	18.60		
Control N= 150		7.88	7.79	-.09	.45(NS)	7.37	7.27	-.10	.48(NS)	175.33	170.20	-5.13	4.02**
		2.35	2.34			2.83	2.95			16.17	19.25		

As noted in Table III, results of the treatment ranged to totally positive, as is the case with Group C, to negative, as with Group D; however, examination of the total pattern reveals generally positive results, particularly with the behavior knowledge and drug knowledge measures.

In Group A, the experimental group increased significantly in behavior knowledge. The changes in drug knowledge and developmental attitudes, while not significant, were in the desired direction. The control group did not change significantly on any of the three measures.

In Group B the experimental group increased significantly in drug knowledge, while the control group demonstrated no significant change. The experimental group maintained the level of previous attitude, but the control group's attitude scores decreased significantly. Both of these findings indicate a positive treatment effect. On the behavior knowledge measure, only the control group changed significantly, and in a positive direction. The experimental group, however, showed no significant change. Apparently the experiences in the other humanities course contributed to the control group's knowledge in the behavior area, while the experiences provided in the treatment group failed to attain their objective on the behavior knowledge measures.

Groups A and B are both from inner-city high schools. While the results were not totally as desired, it would be fair to say that treatment effects were moderately positive.

In Group C outstandingly positive results were found. The experimental group increased significantly on all three measures, while the control group decreased significantly on all three measures, one of the strongest instances of attainment of treatment objectives.

In Group D, however, comprised of students from the same level and high school, positive effects for the experimental group were found only in the significant increase in drug knowledge.

Results from Group E are generally negative, with the experimental group decreasing in both drug knowledge and attitude. The control group's only change was in a decrease in attitude. Thus in the suburban high school the course failed to attain its objectives. Statements from the teacher indicated that the students felt that such a course in drug education should be taught earlier, not to seniors. It is interesting to note, however, that the post-testing knowledge scores are not only lower than the pretest scores, but lower than those of younger students in Groups C and D. It is possible that the measures were not responded to honestly. In either case, the treatment failed to achieve the positive results desired for this group.

In Group F the experimental group increased significantly in drug knowledge and maintained attitude levels, while the control group's only significant change was in a decrease in attitude scores. Neither group changed significantly in behavior knowledge.

In Group G the experimental group increased significantly in behavior knowledge and maintained attitude levels, while the control group decreased significantly on both behavior knowledge and attitude measures. Neither group changed significantly in drug knowledge.

Examination of the total pattern of change reveals six of the seven groups indicating significant growth in either behavior knowledge or drug knowledge. Experimental groups maintained or increased in attitude in six classes while there were significant decreases in four of the seven control groups. The results are moderately positive, when the general pattern of change is noted. The lack of consistency in the pattern, however, forbids clear cut explanation for the differences in effect. In one inner city class there was increase in behavior knowledge, in another in drug knowledge and maintenance of attitude. In one experimental group from the transitional areas, the changes were all strongly positive; however, in the same school, the only change for the other experimental group was an increase in drug knowledge. It is quite possible that the teacher variable in each of the experimental groups could account for the differing treatment affects.

When the data from all of the experimental and control groups are combined, changes are significantly positive ($P < .01$) for the experimental group in behavior knowledge and drug knowledge, while the control group indicates no significant change. The experimental group increased in developmental

attitude ($P < .05$), while the control group decreased in attitude ($P < .01$).

All three of these findings for the combined Toledo group are strongly positive.

TABLE IV

Results of Attitude Factor Scores-Toledo

Group	N		Factor I-Causal Problem Solving Pre	Post	diff	t	Factor II - Altruism Pre	Post	diff	t	Factor III-Drug Orientation Pre	Post	diff	t	Factor IV-Life Interest Pre	Post	diff	t
A Exper.	20	M	26.95	27.75	+.80	.70(NS)	32.60	34.45	+1.85	2.21*	23.90	23.50	-.40	.39(NS)	20.25	19.20	-1.05	1.94'
		s.d.	4.50	3.21			5.03	5.40			4.92	3.28			2.20	3.00		
Control	15	M	28.20	28.40	+.20	.24(NS)	35.09	35.73	+.66	.49(NS)	21.27	24.60	+3.33	3.76**	21.00	20.67	-.33	.41(NS
		s.d.	4.86	3.04			5.51	5.08			3.15	5.05			3.63	2.89		
B Exper.	19	M	26.58	29.37	+.79	1.73*	34.58	35.84	+1.26	1.42 (NS)	21.74	23.26	+1.52	1.50(NS)	20.89	20.79	-.10	.31(NS
			2.65	2.67			4.73	5.40			5.46	3.81			2.47	2.46		
Control	21	M	27.43	26.05	-1.38	2.03*	34.81	32.67	-2.14	1.40 (NS)	23.57	26.57	+3.00	2.95**	20.43	19.33	-1.10	1.05(N
		s.d.	3.34	3.57			3.33	6.95			4.83	4.11			2.82	3.35		
C Exper.	167	M	27.05	27.06	+.01	.02(NS)	32.16	34.59	+2.43	7.28**	23.79	22.80	-.99	2.36**	20.05	20.67	+.62	2.45**
		s.d.	3.78	4.38			6.40	5.78			5.24	4.69			3.23	2.92		
Control	19	M	27.58	26.16	-1.42	1.22(NS)	32.11	29.63	-2.48	1.82*	21.53	24.63	+3.10	2.58**	21.26	19.63	-1.63	1.76*
		s.d.	3.79	4.25			5.90	5.43			4.53	5.01			3.75	3.25		

*P < .05 (pne-tailed test()

			II		III		IV	
D								
Exper.	82 M	27.32	26.49		36.32	36.73	23.54	23.74		20.48	19.99	
				-.83 1.67*			+.41 .84(NS)			+.20 .39		-.49 1.56(N
	s.d.	3.99	3.30		5.77	5.25	4.30	4.22	(NS)	3.04	3.39	
Control	32 M	27.47	26.87		31.31	33.38	23.06	23.25		20.31	20.13	
				-.60 .76(NS)			+2.07 2.10*			+.19 .19		-.28 .30(NS
	s.d.	4.02	4.33		7.13	7.46	6.00	4.84	(NS)	2.91	3.01	
E												
Exper.	40 M	27.05	26.20		34.40	33.62	23.22	25.17		20.25	18.63	
				-.85 .97(NS)			-.78 .86(NS)			-1.95 3.04**		-1.62 3.34**
	s.d.	4.74	4.96		5.85	6.48	5.90	6.14		3.10	2.94	
Control	11 M	26.73	25.73		31.00	31.00	20.82	22.00		20.36	19.64	
				-1.00 .96(NS)			0 0			+1.08 .84(NS)		-.72 .94(NS
	s.d.	3.00	2.69		6.20	5.27	4.56	3.35		3.01	2.80	
F												
Exper.	29 M	28.41	28.17		36.97	36.41	20.69	21.86		21.97	21.66	
				-.24 .34(NS)			-.56 .46(NS)			+1.17 1.26		-.31 .64(NS
	s.d.	2.58	3.04		4.08	6.78	3.29	3.51	(NS)	1.90	2.45	
Control	27 M	28.19	27.59		36.33	37.19	21.74	23.04		21.78	20.81	
				-.60 1.25(NS)			+.86 1.28			+1.30 1.59		-.97 2.65**
	s.d.	2.65	2.78		4.39	4.98	3.37	3.19	(NS)	2.12	2.00	
G												
Exper.	23 M	28.22	28.43		37.70	38.39	23.13	24.52		21.48	21.30	
				+.21 .35(NS)			+.69 1.13(			+1.39 2.25*		-.18 .37(NS)
	s.d.	2.02	2.54		3.72	3.89	(NS)	4.57	4.51		2.35	3.13
Control		28.04	27.84		35.08	36.04	21.52	25.12		21.56	20.28	
				-.20 .35(NS)			+.96 1.02(NS)			+3.60 3.63**		-1.28 2.32*
		3.37	3.01		4.95	4.67	4.56	5.67		2.52	2.41	

Toledo Total Exper.	378	27.36	27.17	-.19	.78(NS)	34.14	35.38	+1.24	5.12*	23.30	23.35	+.05	.17(NS)	20.45	20.35	-.10	.65(NS
		3.78	3.98			6.10	5.80			5.00	4.73			3.00	3.08		
Control	150	27.72	27.03	-.69	2.33*	33.79	33.99	+.20	.46(NS)	22.10	24.21	+2.11	5.23**	20.99	20.12	-.87	3.19**
		3.56	3.56			5.75	6.33			4.64	4.70			2.92	2.80		

	Factor V-Time Orientation				Factor VI-Alienation of Adults				Factor VII - Goal Orientation			
A												
Exper.	16.75	16.35	-.40	.66(NS)	18.80	18.90	+.10	.12 (NS)	10.75	10.85	+.10	.21(NS)
	2.63	2.25			3.50	3.39			2.99	2.68		
Control	17.27	16.60	-.67	1.11(NS)	16.60	16.27	-.33	.54(NS)	12.40	12.13	-.27	.37(NS)
	2.60	2.72			3.96	3.43			2.06	2.04		
B												
Exper.	15.84	15.84	0	0(NS)	17.63	18.00	+.37	.69(NS)	11.79	11.58	-.21	.52(NS)
	2.75	3.04			2.54	2.77			2.10	2.27		
Control	15.81	15.10	-.71	1.63(NS)	19.00	17.76	-1.24	1.46(NS)	11.86	11.43	-.43	.74(NS)
	2.89	3.06			3.36	3.10			2.67	2.13		
C												
Exper.	15.20	16.23	+1.03	4.29**	17.14	17.05	-.09	.38(NS)	10.19	11.62	+1.43	1.89*
	3.01	3.04			3.77	3.35			2.52	2.44		
Control	15.74	14.89	-.85	1.18(NS)	15.95	15.89	-.06	.06(NS)	11.84	10.42	-1.42	1.56 (NS)
	2.75	3.36			4.40	4.16			2.27	3.79		

	V				VI				VII			
D Exper.	15.90	16.35	+.45	1.57(NS)	18.05	18.40	+.35	1.11(NS)	11.57	11.48	-.09	.32(NS)
	3.07	3.01			3.82	3.18			2.20	2.45		
Control	15.06	15.13	+.07	.10(NS)	15.63	17.53	+1.90	2.91**	10.97	11.72	+.75	1.51(NS)
	2.96	3.02			3.92	4.23			2.88	2.56		
E Exper.	15.90	15.52	-.38	.79(NS)	18.55	18.87	+.32	.55(NS)	10.90	10.40	-.50	1.02(NS)
	2.90	3.29			3.69	4.04			2.85	2.67		
Control	17.27	16.09	-1.18	1.37(NS)	18.18	20.91	+2.73	3.16**	10.91	11.09	+.18	.21(NS)
	2.97	1.97			4.14	3.99			3.86	3.51		
F Exper.	17.79	17.24	-.53	.97(NS)	16.66	16.31	-.31	.74(NS)	13.03	12.66	-.37	.77(NS)
	2.21	2.65			2.65	2.85			1.50	2.53		
Control	16.48	17.07	+.59	1.31(NS)	16.44	18.19	+1.75	2.99**	12.30	12.22	-.08	
	2.24	1.69			2.31	3.00			1.64	1.91		
G Exper.	17.17	17.43	+.26	.73(NS)	17.83	18.26	-.43	1.21(NS)	11.96	12.17	+.21	.46(NS)
	2.57	2.50			2.44	2.75			2.46	2.33		
Control	16.76	17.08	+.32	.66(NS)	19.16	18.04	-1.12	2.10*	11.80	11.32	-.48	.93(NS)
	2.93	2.55			2.95	2.78			2.14	2.73		

Toledo Total Exper.	15.86	16.32	+.46	3.11**	17.60	17.69	+.09	.58(NS)	11.44	11.53	+.09	.67(NS)
	2.99	2.98			3.59	3.38			2.47	2.51		
Control	16.17	15.99	-.18	.83(NS)	17.16	17.68	+.52	1.81*	11.72	11.53	-.19	.82(NS)
	2.82	2.81			3.75	3.68			2.49	2.66		

*p

*P < .05 (one-tailed test)
**P < .01

An examination of the Attitude Factor Scores reveals the difficulty of interpretation when each of the groups is considered separately. The interrelationships of these factors is obviously complex. It is only when the data from the combined experimental groups and the combined control groups are examined that the patterns of change become clearer.

An examination of the total experimental group reveals the following positive results:

Factor I- The experimental group does not change, but the control group decreases significantly.*

Factor II- The experimental group increases significantly, while the control group does not change.*

Factor III- The control group increases significantly, while the experimental group does not change.*

Factor IV- The experimental group does not change, but the control group decreases significantly.*

Factor V- The experimental group increases significantly, while the control group does not change.*

Factor VI- The control group increases significantly, while the experimental group does not change.*

On the remaining factor, Factor VII, neither group changed significantly.

* indicates positive program effect.

TABLE V

Behavior Knowledge, Drug Knowledge, and Total Attitude Results

Group	N	Behavior Knowledge				Drug Knowledge				Total Attitude			
		Pre	Post	diff	t	Pre	Post	diff	t	Pre	Post	diff	t
A Exper.	45	5.44	6.07	+.63	1.69**	4.64	5.04	+.40	.94(NS)	157.20	159.29	+2.09	.56(NS)
		2.09	2.28			2.24	2.62			23.66	23.58		
Control		See data for Group D Control											
B Exper.	20	8.35	8.55	+.20		8.60	8.25	-.35	.73(NS)	173.55	166.70	-6.85	1.34(NS)
		2.41	2.44			2.80	2.61			16.53	23.13		
Control	32	8.31	7.91	-.40	1.04(NS)	7.94	7.19	-.75	1.65*	176.81	172.88	-3.93	1.22(NS)
		2.10	2.28			2.91	3.63			14.32	17.60		
C Exper.	40	8.50	9.05	+.55	1.69*	8.97	9.85	+.88	2.36*	180.35	175.65	-4.70	2.11*
		2.49	3.15			3.22	3.96			15.45	20.54		
Control		See data for Group D Control											

*P < .05 (one-tailed test)
**P < .01

D											
Exper.	36	7.44	8.22	+.78	1.76*	6.61	8.33	+1.72	3.89**	173.81	170.11	-3.70	1.49(NS)
		2.44	2.61			3.17	3.48			16.15	17.33		
Control	18	7.44	8.22	+.78	1.30(NS)	7.50	7.00	-.50	.88(NS)	171.33	162.61	-8.72	1.25(NS)
		2.50	2.46			2.64	3.14			18.17	29.76		
E													
Exper.	41	8.37	8.27	-10	.30(NS)	7.85	9.37	+1.52	3.80**	177.88	183.37	+5.49	3.39**
		2.40	2.54			2.56	3.08			12.60	12.77		
Control	42	8.14	7.33	-.81	2.26*	7.71	8.19	+.48	1.31(NS)	172.48	173.02	+.54	.30(NS)
		1.52	2.08			2.92	2.61			14.63	13.50		
F													
Exper.	36	8.36	8.61	+.25	.74(NS)	7.86	9.58	+1.72	4.23**	177.19	181.11	+3.92	1.95*
		1.79	2.65			3.00	3.43			14.27	16.31		
Control	32	8.37	8.13	-.24	.69(NS)	7.41	7.69	+.28	.81(NS)	172.81	174.25	+1.44	.46(NS)
		1.95	2.00			3.16	3.06			21.94	14.22		
Total Dayton													
Exper.	251	7.78	8.06	+.28	1.87*	7.30	8.22	+.92	5.58**	173.27	171.36	-1.91	1.54(NS)
		2.48	2.70			3.11	3.60			18.49	22.69		
Control	127	8.13	7.80	-.33	1.62(NS)	7.64	7.71	+.07	.33(NS)	173.74	172.13	-1.61	.99(NS)
		1.93	2.16			2.93	3.11			17.10	18.24		

As can be seen in Table V, treatment effects upon behavior knowledge and drug knowledge were very similar to the Toledo effects. In the attitudinal area, however, results were mixed. The same tendency for the most consistent effect to be in drug knowledge gains, then in behavior knowledge, and finally in attitude when change did occur, continued.

In Group A, the experimental group increased significantly in behavior knowledge. Drug knowledge and attitude scores increased, but not significantly. The control group experienced no significant changes.

In Group B, the only change for either group was a significant decrease in attitude, a negative finding. It is interesting and perhaps significant to note that in the only two cases where the changes went in the undesired direction, the classes were comprised of seniors. As was the case in Group E of Toledo, the students were reported to have stated that the program should have been taught prior to the twelfth grade.

In Group C significant increases were found in behavior knowledge and drug knowledge; however, the attitude scores decreased significantly. Examination of Table V reveals that these attitude scores at pretesting were the highest of all the groups tested, increasing the likelihood of such a regression.

In Group D the experimental group increased significantly in behavior knowledge and drug knowledge, while there was no significant change in attitude.

The control group did not change significantly on any of the three measures.

In Group E the experimental group increased significantly in drug knowledge and attitude, while the control group experienced no change on these measures. Examination of the behavior knowledge scores reveals that the experimental group maintained pretest level, while the control group decreased significantly.

In Group F the experimental group increased significantly in drug knowledge and behavior knowledge scores,while the control group did not change significantly. Neither group evidenced change in behavior knowledge.

Six of the seven group evidenced significant increases in either behavior knowledge or drug knowledge, while only two of the six did both.

Examination of the combined data from the experimental groups and control groups indicates significant increases in behavior knowledge and drug knowledge. There was no effect upon the attitude measures. While short of the desired objective of student growth in all three measures, the results do indicate a moderately positive finding.

Results of Attitude Factor Scores - Dayton

Group	N	Factor I-Causal Problem Solving				Factor II - Altruism				Factor III-Drug Orientation				Factor IV-Life Interest			
		Pre	Post	diff	t	Pre	Post	diff	t	Pre	Post	diff	t	Pre	Post	diff	t
A																	
Exper.	45 M	24.31	25.24	+.93	1.01(NS)	29.40	30.33	+.93	.81(NS)	23.20	24.67	+1.47	2.08*	18.24	18.36	+.17	.16(N
	s.d.	5.21	4.73			6.09	6.39			4.28	4.71			3.97	4.44		
Control		see data for Group D control															
B																	
Exper.	53 M	27.55	25.45	-2.10	2.78**	34.04	32.87	-1.17	1.26(NS)	21.42	23.89	+2.47	3.31*	20.26	18.59	-1.67	.93**
	s.d.	3.95	7.11			5.30	5.23			4.62	5.28			4.02	4.38		
Control	32 M	28.03	26.78	-1.25	1.39(NS)	34.13	32.25	-1.88	2.44*	22.41	21.53	-.88	.97(NS)	20.72	20.53	-.19	.33(N
	s.d.	3.05	4.14			5.22	5.42			5.37	4.40			2.28	3.02		
C																	
Exper.	40 M	29.50	28.05	-1.45	1.94*	37.40	36.70	-.70	1.25(NS)	24.48	24.72	+.24	.46(NS)	21.05	20.43	-.62	1.42(N
	s.d.	2.70	4.43			4.29	5.37			4.52	4.47			3.05	3.29		
Control		see data for Group D Control															
D																	
Exper.	36 M	27.50	26.50	-1.00	1.43(NS)	33.22	34.61	+1.39	1.73*	21.53	23.89	+2.36	2.89*	20.92	20.53	-.37	.79 N
	s.d.	3.17	3.84			5.60	4.73			4.83	4.85			2.06	3.11		
Control	18 M	27.11	25.06	-2.05	.97(NS)	32.94	32.22	-.72	.38*NS)	22.28	23.06	+.78	.59(NS)	20.22	19.56	-.66	1.00(N
		5.33	7.51			5.69	8.87			4.76	4.40			2.65	3.35		

		I	II	III	IV
E Exper.	41 M	28.20 28.76 +.56 1.28(NS)	34.24 36.07 +1.83 3.28*	22.54 22.66 +.12 .21(NS)	21.49 21.63 +.14 .35(NS
	s.d.	3.00 2.75	5.71 4.90	3.44 4.49	2.19 2.21
Control	42 M	27.62 27.55 -.07 .12(NS)	33.33 33.60 +.27 .49(NS)	22.45 23.36 +.91 1.50(NS)	20.48 21.05 +.59 1.24(NS
	s.d.	3.73 3.38	5.48 5.47	5.26 3.82	3.16 2.40
F Exper.	36 M	27.83 28.56 +.73 1.62(NS)	34.03 35.39 +1.36 1.75*	22.31 22.22 -.09 .15(NS)	21.19 20.94 -.25 .47(NS)
	s.d.	3.00 2.62	6.32 5.73	3.02 3.59	2.68 2.85
Control	32 M	27.13 27.62 +.49 .45(NS)	33.41 34.16 +.75 1.28(NS)	21.97 23.13 +1.16 1.53(NS)	21.03 21.34 +.31 .64(NS)
	s.d.	5.43 3.01	4.68 4.84	5.71 5.73	3.64 1.82
Total Exper.	251	27.42 26.96 -.46 1.51(NS)	33.66 34.16 +.50 1.41(NS)	22.55 23.72 +1.17 4.12**	20.45 20.02 -.43 2.02*
		3.98 4.89	6.01 5.82	4.29 4.69	3.35 3.71
Control	128	27.59 27.13 -.46 .90(NS)	33.62 33.27 -.35 .87(NS)	22.34 22.87 +.53 1.31(NS)	20.62 20.75 +.13 .48(NS)
		4.27 4.38	5.28 5.98	5.30 4.62	2.97 2.64

	N	Factor V-Time Orientation Pre	Post	diff	t	Factor VI-Alienation of Adults Pre	Post	diff	t	Factor VII-Goal Orientation Pre	Post	diff	t
A													
Exper.	45 M	14.27	14.51	+.27	.43(NS)	15.56	14.89	-.67	1.14(NS)	9.91	10.71	+.80	1.42(NS)
	s.d.	3.75	3.12			3.93	3.60			3.51	3.00		
Control		see data for Group D control											
B													
Exper.		16.38	15.36	-1.02	2.14*	18.60	16.94	-1.66	2.87*	11.51	10.53	-.98	2.36*
		3.36	3.06			4.21	3.97			2.37	3.08		
Control		15.91	15.50	-.41	.51(NS)	16.47	16.75	+	.39(NS)	11.38	11.47	+.09	.22(NS)
		3.17	3.46			3.44	3.68			2.45	2.06		
C													
Exper.		16.90	16.80	-.10	.30(NS)	18.45	18.45	0	.0(NS)	12.32	12.00	-.32	.76(NS)
		3.01	3.19			3.60	3.86			2.30	2.56		
Control		see data for Group D control											
D													
Exper.		15.53	15.78	+.25	.57(NS)	16.97	16.67	-.30	.39(NS)	11.64	11.00	-.64	1.49(NS)
		2.84	3.06			4.27	2.98			2.72	2.46		
Control		15.22	14.72	-.50	.73(NS)	17.56	17.17	-.39	.33(NS)	11.28	10.50	-1.08	.94(NS)
		2.84	3.74			2.53	4.31			1.96	3.50		

	V				VI				VII			
E Exper.	16.22	16.95	+.73	1.93*	17.59	16.71	-.88	3.11**	12.24	12.85	+.61	2.26*
	2.37	2.09			3.04	3.10			1.79	1.51		
Control	15.31	15.86	+.55	1.02(NS)	17.90	17.52	-.38	.95(NS)	11.74	11.69	-.05	.12(NS)
	2.82	3.77			3.84	3.84			2.10	2.11		
F Exper.	15.94	16.94	+1.00	1.90*	17.00	16.67	-.33	.80(NS)	12.33	12.19	-.14	.44(NS)
	3.33	3.07			2.98	3.35			1.87	2.15		
Control	15.47	15.19	-.28	.85(NS)	17.37	17.81	+.44	.93(NS)	11.56	12.19	+.63	1.88**
	2.78	3.03			3.10	2.93			2.71	2.12		
Total Exper.	15.87	15.98	+.11	.58(NS)	17.40	16.70	-.70	3.16**	11.61	11.48	-.13	.72(NS)
	3.25	3.07			3.86	3.65			2.63	2.68		
Control	15.57	15.51	-.06	.21(NS)	17.41	17.31	-.10	.31(NS)	11.55	11.64	+.09	.39(NS)
	2.88	3.48			3.37	3.66			2.31	2.37		

*P < .05
**P < .01 (one-tailed test)

Since the Total Attitude Scores of the Dayton combined experimental and combined control groups indicated no significant change, it is not surprising that the results of the sub-score comparisons show mixed results. On four of the factors, I, II, V, and VII, there were no changes. On two factors, III and IV, the experimental group changed in the undesired direction, while the control group did not change. On Factor VI, however, a positive finding was the significant decrease in the experimental groups' score, with no change in the control groups.

Examination of the attitude factor scores simply confirms the results noted in Table V, that the program failed to bring about the desired changes in the attitudinal area for the Dayton group.

Summary of Effects in the Three Major Tests

	Behavior Knowledge	Drug Knowledge	Total Attitude
Lima			
Fall N=258	+	+	R
Spring N=142	++	++	++
Toledo N=380	+	+	++
Dayton N=250	+	+	

++ = significant increase (.05) by experimental, significant decrease by control (

+ = significant increase (.05) by experimental, no change by control

R = maintained while control decrease (.05)

When the combined experimental and the combined control data from each of the major test efforts were used, significant increases were obtained in ten of the twelve cells. A resistance to the control group's negative change in one of the two remaining cells occurred. Positive effects of the experimental treatment, therefore, have been strongly supported.

However, to fail to realize the complexity of the patterns established by an examination of the individual groups would be to fail to acknowledge the variability of effects within those total groups.

This variability did not take on a distinctive pattern, since objectives were both met and not met at the different socioeconomic levels in different schools in comparable situations. There was some evidence to indicate that more positive results tended to occur in classes prior to the twelfth grade.

It is quite possible that these varying effects can be accounted for by the teacher variable. Given this curriculum, some teachers may be more effective than others in the realization of program objectives, regardless of the socioeconomic level of the students. Additional research is needed--research that takes into account the background of the teacher at the initiation of in-service training, and teacher background and attitude as the program is implemented.

As noted, earlier, however, there is substantial evidence to support the expectation that implementation of this program will result in the attainment of the program objectives. These objectives include positive effects upon student understanding of human behavior, knowledge of drug effects, and the development of constructive attitudes.

Summary of Effects in Attitude Factors

	I	II	III	IV	V	VI	VII
Lima							
Fall N=248	R	+	*	R	+	X	R
Spring N=142	++	++	++	++	+	R	+
Toledo N=380	R	+	R	R	+	R	
Dayton N=250			X	X		+	

++= significant change in desired direction (.05) by experimental, change in opposite direction (.05) by control

+ = change in desired direction (.05), no change in control

R= maintained while control decreased (.05)

* = both experimental and control change in undesired direction (.05)

X = experimental moves in undesired direction, (.05) control unchanged

When the combined experimental and the combined control results are used, a more definitive analysis of effect on attitudinal factors may be obtained. The positive effects across groups on Factor II (Altruism) and Factor V (Time Orientation) are clearly evident. In the other areas (Factors I, IV, VII) the effect tends to be a resistance to the deterioration of attitude factors in other, untreated groups, which in itself is significant. Of continued

concern are the mixed results in Factor III(Drug Orientation) and Factor VI (Alienation from Adults.)

As discussed earlier, the tendency for the groups to be low in drug orientation scores at pretesting, making a further reducation on this factor quite difficult, may account to some extent for the mixed results in this field testing.

Results from Factor VI do not indicate a strong alienation from adults as much as a lack of positive attraction towards them as sources of help with personal problems. In the case of the Dayton sample, where the experimental group went in the undesired direction on Factor VI, the responses on items suggesting various adults as sources of help tended to be neutral (with a mean slightly under 3 on 1 to 5 scale), leaning slightly in the desired direction.

The small standard deviation in this testing suggests that this was not a case of two polarized groups, one strongly alienated and another closely identified with adults, but a more unified neutral response. This more neutral response is not surprising in view of the adolescent's typical response toward adults as he establishes his own independence; however, a more positive view of adults as sources of help was one of the objectives of the program.

It must also be noted that this factor is influenced by the student's

experiences with adults outside the experimental conditions. The attitudes that might be developed within the classroom could be negated or enhanced, depending upon those outside experiences.

The mixed results on this factor substantiate the difficulty, yet the possibility of improving student attitude in this area.

It is quite possible that historical influences may have hampered efforts designed to reach program objectives in the Dayton sample. The implementation was accompanied by numerous school difficulties, including a delay because of levy failures, the closing of schools for a brief period, and other school-community conflicts.

Conclusions and Recommendations

As the result of the examination of data reported and summarized in earlier sections of this report, it is concluded that the implement ation of this program had positive effects upon student behavior knowledge, drug knowledge, and develcpmental attitudes.

Examination of the results from smaller, individual groups, however, reveals that, while the overall effect of the program tended to be positive, there were some classrooms in which the program failed to meet all of the desired objectives. This shows that the curriculum, as it is implemented, does not stand independent from other variables in the classroom - namely the teacher, the relationships he or she has with the students, and the methods and content he selects for classroom experiences. While the curriculum has been shown to be effective, there is considerable evidence that it is not teacher-proof.

It is recommended that there be increased teacher preparation and in-service support to make sure that the necessary understandings, attitudes, and commitment to the program objectives accompany the implementation of this curriculum at the high school level. Such measures would increase the probability of attaining program objectives in the individual class as well as in total groups.

APPENDIX F

Test Instruments

A World to Grow In
DAT Form 1

Materials:

Each pupil will need a pencil or a crayon to indicate responses on the answer sheet.

Each pupil will need a place holder or marker (about 8 inches long and 1 inch wide) so that it will be easier to stay on the correct row on the answer sheet.

General Directions:

Prior to testing, the teacher will print the student's name, sex (M or F), grade, and date on each student's answer sheet.

Each test item is to be read by the teacher, and repeated, as indicated in the Specific Directions. The pupils will indicate their response to each item by coloring or shading the bow under one of the two faces.

You must expect some students to be unable to follow directions or unable to attend long enough. Your skills and experience can be used to gently encourage such slow maturing students to participate. Remember that you are attempting to foster positive self-concepts in children and the testing situation provides yet another opportunity to practice this by making it as pleasant an experience as possible. When reading the items, be sure that you do not give away the correct response by over-emphasizing a word, or through facial expressions.

Specific Directions:

Distribute answer sheets and place holders.

Say: WE ARE GOING TO PLAY A GAME. THE GAME IS TO PICK A SAD FACE AND COLOR IN THE BOW UNDER THE SAD FACE OR PICK A HAPPY FACE AND COLOR IN THE BOW UNDER THE HAPPY FACE.

PUT YOUR PLACE HOLDER UNDER THE TOP ROW OF FACES. THERE ARE TWO FACES IN THIS ROW. ONE FACE HAS A SMILE. IT IS A HAPPY FACE. PUT YOU YOUR FINGER ON THE HAPPY FACE. (Illustrate by holding up answer sheet and pointing out the happy face.)

THE OTHER FACE HAS A FROWN. IT IS A SAD FACE. PUT YOUR FINGER ON THE SAD FACE. (Illustrate by holding up answer sheet and pointing out the sad face.)

Distribute crayons or pencils.

NOW I AM GOING TO READ A SENTENCE. IF YOU THINK THE SENTENCE IS TRUE, COLOR IN THE BOW UNDER THE HAPPY FACE. IF YOU THINK THE SENTENCE IS NOT TRUE, COLOR IN THE BOW UNDER THE SAD FACE.

TODAY IS SATURDAY. (pause) TODAY IS SATURDAY.
IF YOU THINK THE SENTENCE IS NOT TRUE, COLOR IN THE BOW UNDER THE SAD FACE. IF YOU THINK THE SENTENCE IS TRUE, COLOR IN THE BOW UNDER THE HAPPY FACE. (pause)

SINCE TODAY IS NOT SATURDAY, THE SENTENCE WAS NOT TRUE AND YOU SHOULD HAVE COLORED IN THE BOW UNDER THE SAD FACE. WHO DID NOT COLOR IN THE BOW UNDER THE SAD FACE? PLEASE RAISE YOUR HAND. (Correct any confusion about responding that may have occurred.)

O.K. NOW, I AM GOING TO READ SOME MORE SENTENCES AND YOU WILL COLOR IN THE BOW UNDER THE HAPPY FACE IF YOU THINK THE SENTENCE IS RIGHT. YOU WILL COLOR IN THE BOW UNDER THE SAD FACE IF YOU THINK THE SENTENCE IS WRONG. REMEMBER, I WANT TO KNOW WHAT YOU THINK ABOUT THESE SENTENCES. I'LL FIND OUT WHAT YOUR NEIGHBOR THINKS ABOUT THESE SENTENCES BY LOOKING AT HIS BOWS. MAKE SURE YOU COLOR IN ONLY ONE BOW IN EACH ROW, BUT DON'T LEAVE A ROW UNLESS ONE BOW IS COLORED IN.

(turn page)

Item #1
flower

MOVE YOUR PLACE HOLDER UNDER THE NEXT ROW. THIS ROW HAS A PICTURE OF A FLOWER. THE PICTURES ON EACH ROW WILL HELP US STAY TOGETHER. DO YOU THINK THIS SENTENCE IS RIGHT OR WRONG? COOPERATE MEANS WORKING TOGETHER. (Repeat) COLOR IN THE BOW UNDER THE HAPPY FACE IF YOU THINK THAT SENTENCE IS RIGHT. COLOR IN THE BOW UNDER THE SAD FACE IF YOU THINK THAT SENTENCE IS WRONG.

Item #2
football

SLIDE YOUR PLACE HOLDER DOWN TO THE FACES NEXT TO THE FOOTBALL. IS THIS SENTENCE RIGHT OR WRONG? PEOPLE SHOULD COOPERATE TO GET THINGS DONE. (Repeat) IF YOU THINK THE SENTENCE IS RIGHT COLOR IN THE BOW UNDER THE HAPPY FACE. IF YOU THINK THE SENTENCE IS WRONG COLOR IN THE BOW UNDER THE SAD FACE.

Item #3
bone

THE NEXT ROW HAS A BONE. IS EVERYONE AT THE CORRECT PLACE? (Pause) FINE. NOW, DO YOU THINK THIS SENTENCE IS RIGHT OR WRONG? A BROOM IS USUALLY USED FOR PAINTING. I'LL REPEAT THE SENTENCE WHILE YOU DECIDE IF IT IS RIGHT OR WRONG AND COLOR IN THE BOW UNDER THE HAPPY FACE OR THE SAD FACE. A BROOM IS USUALLY USED FOR PAINTING.

Item #4
fish

MOVE YOUR PLACE HOLDER DOWN TO THE NEXT ROW. THIS IS THE BOTTOM ROW AND IT HAS A FISH. IS THIS SENTENCE RIGHT OR WRONG? A SPOON IS USUALLY USED FOR EATING. (Repeat)

Item #5 wagon

LET'S SLIDE THE PLACE HOLDER TO THE TOP OF THE PAGE UNTIL IT IS AT THE ROW WITH THE WAGON. IS THIS SENTENCE RIGHT OR WRONG? SHOES ARE WORN ON THE FEET. (Repeat)

Item #6 dog house

NOW, DOWN TO THE NEXT ROW – THE ROW WITH A DOG HOUSE. IS THIS SENTENCE RIGHT OR WRONG? IF YOU MISUSE SOMETHING IT WILL HURT YOU. (Repeat)

Item #7 cat

NEXT IS THE ROW WITH A CAT. IS THIS SENTENCE RIGHT OR WRONG? WHENEVER YOU USE SOMETHING THAT HAS A STRONG SMELL, YOU SHOULD NOT OPEN A WINDOW BECAUSE THAT WOULD SMELL UP THE OUTDOORS. (Repeat)

Item #8 flower

THE BOTTOM ROW HAS A PICTURE OF A FLOWER. IS THIS SENTENCE RIGHT OR WRONG? IF A BOTTLE OR CAN HAS NO LABEL ON IT, IT'S ALRIGHT TO USE IT. (Repeat)

Item #9 football

TURN THIS SHEET OVER. PUT YOUR PLACE HOLDER UNDER THE FIRST ROW. THIS ROW HAS A FOOTBALL. IS THIS SENTENCE RIGHT OR WRONG? GLUE IS USED TO HOLD THINGS TOGETHER. (Repeat)

Item #10 bone

SLIDE THE PLACE HOLDER DOWN TO THE NEXT ROW. THIS ROW HAS A BONE. IS THIS SENTENCE RIGHT OR WRONG? USING THE WRONG TOOL CAN HURT ONLY YOU. (Repeat)

A World to Grow In
DAT Form 2

Materials:

Each pupil will need a pencil or a crayon to indicate responses on the answer sheet.

Each pupil will need a place holder or marker (about 8 inches long and 1 inch wide) so that it will be easier to stay on the correct row on the answer sheet.

General Directions:

Prior to testing, the teacher will print the student's name, sex (M or F), grade, and date on each student's answer sheet.

Each test item is to be read by the teacher, and repeated, as indicated in the Specific Directions. The pupils will indicate their response to each item by coloring or shading the bow under one of the two faces.

You must expect some students to be unable to follow directions or unable to attend long enough. Your skills and experience can be used to gently encourage such slow maturing students to participate. Remember that you are attempting to foster positive self-concepts in children and the testing situation provides yet another opportunity to practice this by making it as pleasant an experience as possible. When reading the items, be sure that you do not give away the correct response by over-emphasizing a word, or through facial expressions.

Specific Directions:

Distribute answer sheets and place holders.

Say: WE ARE GOING TO PLAY A GAME. THE GAME IS TO PICK A SAD FACE AND COLOR IN THE BOW UNDER THE SAD FACE OR PICK A HAPPY FACE AND COLOR IN THE BOW UNDER THE HAPPY FACE.

PUT YOUR PLACE HOLDER UNDER THE TOP ROW OF FACES. THERE ARE TWO FACES IN THIS ROW. ONE FACE HAS A SMILE. IT IS A HAPPY FACE. PUT YOUR YOUR FINGER ON THE HAPPY FACE. (Illustrate by holding up answer sheet and pointing out the happy face.)

THE OTHER FACE HAS A FROWN. IT IS A SAD FACE. PUT YOUR FINGER ON THE SAD FACE. (Illustrate by holding up answer sheet and pointing out the sad face.)

Distribute crayons or pencils.

NOW I AM GOING TO READ A SENTENCE. IF YOU THINK THE SENTENCE IS TRUE, COLOR IN THE BOW UNDER THE HAPPY FACE. IF YOU THINK THE SENTENCE IS NOT TRUE, COLOR IN THE BOW UNDER THE SAD FACE.

TODAY IS SATURDAY. (pause) TODAY IS SATURDAY.
IF YOU THINK THE SENTENCE IS NOT TRUE, COLOR IN THE BOW UNDER THE SAD FACE. IF YOU THINK THE SENTENCE IS TRUE, COLOR IN THE BOW UNDER THE HAPPY FACE. (pause)

SINCE TODAY IS NOT SATURDAY, THE SENTENCE WAS NOT TRUE AND YOU SHOULD HAVE COLORED IN THE BOW UNDER THE SAD FACE. WHO DID NOT COLOR IN THE BOW UNDER THE SAD FACE? PLEASE RAISE YOUR HAND. (Correct any confusion about responding that may have occurred.)

O.K. NOW, I AM GOING TO READ SOME MORE SENTENCES AND YOU WILL COLOR IN THE BOW UNDER THE HAPPY FACE IF YOU THINK THE SENTENCE IS RIGHT. YOU WILL COLOR IN THE BOW UNDER THE SAD FACE IF YOU THINK THE SENTENCE IS WRONG. REMEMBER, I WANT TO KNOW WHAT YOU THINK ABOUT THESE SENTENCES. I'LL FIND OUT WHAT YOUR NEIGHBOR THINKS ABOUT THESE SENTENCES BY LOOKING AT HIS BOWS. MAKE SURE YOU COLOR IN ONLY ONE BOW IN EACH ROW, BUT DON'T LEAVE A ROW UNLESS ONE BOW IS COLORED IN.

(turn page)

Item #1
flower

MOVE YOUR PLACE HOLDER UNDER THE NEXT ROW. THIS ROW HAS A PICTURE OF A FLOWER. THE PICTURES ON EACH ROW WILL HELP US STAY TOGETHER. DO YOU THINK THIS SENTENCE IS RIGHT OR WRONG? WHEN SOMETHING IS IN BALANCE, ITS PARTS ARE WORKING TOGETHER OR COOPERATING. (Repeat) COLOR IN THE BOW UNDER THE HAPPY FACE IF YOU THINK THAT SENTENCE IS RIGHT. COLOR IN THE BOW UNDER THE SAD FACE IF YOU THINK THAT SENTENCE IS WRONG.

Item #2
football

SLIDE YOUR PLACE HOLDER DOWN TO THE FACES NEXT TO THE FOOTBALL. IS THIS SENTENCE RIGHT OR WRONG? BALANCE DOES NOT LEAD TO HEALTH AND HAPPINESS. (Repeat) IF YOU THINK THE SENTENCE IS RIGHT COLOR IN THE BOW UNDER THE HAPPY FACE. IF YOU THINK THE SENTENCE IS WRONG COLOR IN THE BOW UNDER THE SAD FACE.

Item #3
bone

THE NEXT ROW HAS A BONE. IS EVERYONE AT THE CORRECT PLACE? (Pause) FINE. NOW, DO YOU THINK THIS SENTENCE IS RIGHT OR WRONG? THE EXTERNAL ENVIRONMENT IS EVERYTHING WHICH IS OUTSIDE OF YOU. I'LL REPEAT THE SENTENCE WHILE YOU DECIDE IF IT IS RIGHT OR WRONG AND COLOR IN THE BOW UNDER THE HAPPY FACE OR THE SAD FACE. THE EXTERNAL ENVIRONMENT IS EVERYTHING WHICH IS OUTSIDE OF YOU.

Item #4
fish

MOVE YOUR PLACE HOLDER DOWN TO THE NEXT ROW. THIS IS THE BOTTOM ROW AND IT HAS A FISH. IS THIS SENTENCE RIGHT OR WRONG? THE EXTERNAL ENVIRONMENT CONTAINS MAN-MADE OBJECTS. (Repeat)

Item #5 wagon

LET'S SLIDE THE PLACE HOLDER TO THE TOP OF THE PAGE UNTIL IT IS AT THE ROW WITH THE WAGON. IS THIS SENTENCE RIGHT OR WRONG? THE EXTERNAL ENVIRONMENT CONTAINS ONLY NATURAL OBJECTS. (Repeat)

Item #6 dog house

NOW, DOWN TO THE NEXT ROW — THE ROW WITH A DOG HOUSE. IS THIS SENTENCE RIGHT OR WRONG? NATURAL OBJECTS SEEM TO KEEP IN BALANCE BY COOPERATING. (Repeat)

Item #7 cat

NEXT IS THE ROW WITH A CAT. IS THIS SENTENCE RIGHT OR WRONG? POLLUTION IS WHEN MAN INTERACTS WITH THE EXTERNAL ENVIRONMENT. (Repeat)

Item #8 flower

THE BOTTOM ROW HAS A PICTURE OF A FLOWER. IS THIS SENTENCE RIGHT OR WRONG? MAN CAN NOT MAKE THE EXTERNAL ENVIRONMENT RETURN TO BALANCE. (Repeat)

Item #9 football

TURN THIS SHEET OVER. PUT YOUR PLACE HOLDER UNDER THE FIRST ROW. THIS ROW HAS A FOOTBALL. IS THIS SENTENCE RIGHT OR WRONG? MAN CAN BE IN BALANCE WITH THE EXTERNAL ENVIRONMENT. (Repeat)

Item #10 bone

SLIDE THE PLACE HOLDER DOWN TO THE NEXT ROW. THIS ROW HAS A BONE. IS THIS SENTENCE RIGHT OR WRONG? WASTE IS THE RESULT OF ANY PRODUCTION. (Repeat)

Item #11 fish

THE NEXT ROW HAS A PICTURE OF A FISH. IS THIS SENTENCE RIGHT OR WRONG? POLLUTION IS UNDESIRABLE. (Repeat)

Item #12
wagon

NOW MOVE THE PLACE HOLDER UNDER THE ROW WITH THE WAGON. IS THIS SENTENCE RIGHT OR WRONG? AN ENVIRONMENTAL HELPER IS INTERESTED IN YOU. (Repeat)

Item #13
dog house

YOU CAN SEE A DOG HOUSE IN THE BOTTOM ROW. IS THIS SENTENCE RIGHT OR WRONG? AN AIR FILTER KEEPS ASHES AND BLACK SMOKE FROM GOING INTO A BUILDING. (Repeat)

A World to Grow In
DAT Form 3

Materials:

Each pupil will need a pencil or a crayon to indicate responses on the answer sheet.

Each pupil will need a place holder or marker (about 8 inches long and 1 inch wide) so that it will be easier to stay on the correct row on the answer sheet.

General Directions:

Prior to testing, the teacher will print the student's name, sex (M or F), grade, and date on each student's answer sheet.

Each test item is to be read by the teacher, and repeated, as indicated in the Specific Directions. The pupils will indicate their response to each item by coloring or shading the bow under one of the two faces.

You must expect some students to be unable to follow directions or unable to atten long enough. Your skills and experience can be used to gently encourage such slow matu ing students to participate. Remember that you are attempting to foster positive self-co cepts in children and the testing situation provides yet another opportunity to practice thi by making it as pleasant an experience as possible. When reading the items, be sure tha you do not give away the correct response by over-emphasizing a word, or through facial expressions.

Specific Directions:

Distribute answer sheets and place holders.

Say: WE ARE GOING TO PLAY A GAME. THE GAME IS TO PICK A SAD FACE AND COLOR IN THE BOW UNDER THE SAD FACE OR PICK A HAPPY FACE AND CO OR IN THE BOW UNDER THE HAPPY FACE.

PUT YOUR PLACE HOLDER UNDER THE TOP ROW OF FACES. THERE ARE T FACES IN THIS ROW. ONE FACE HAS A SMILE. IT IS A HAPPY FACE. PUT YOUR FINGER ON THE HAPPY FACE. (Illustrate by holding up answer sheet and pointing out the happy face.)

THE OTHER FACE HAS A FROWN. IT IS A SAD FACE. PUT YOUR FINGER ON THE SAD FACE. (Illustrate by holding up answer sheet and pointing out the sad face.)

Distribute crayons or pencils.

NOW I AM GOING TO READ A SENTENCE. IF YOU THINK THE SENTENCE IS TRUE, COLOR IN THE BOW UNDER THE HAPPY FACE. IF YOU THINK THE SENTENCE IS NOT TRUE, COLOR IN THE BOW UNDER THE SAD FACE.

TODAY IS SATURDAY. (pause) TODAY IS SATURDAY.
IF YOU THINK THE SENTENCE IS NOT TRUE, COLOR IN THE BOW UNDER THE SAD FACE. IF YOU THINK THE SENTENCE IS TRUE, COLOR IN THE BOW UNDER THE HAPPY FACE. (pause)

SINCE TODAY IS NOT SATURDAY, THE SENTENCE WAS NOT TRUE AND YOU SHOULD HAVE COLORED IN THE BOW UNDER THE SAD FACE. WHO DID NOT COLOR IN THE BOW UNDER THE SAD FACE? PLEASE RAISE YOUR HAND. (Correct any confusion about responding that may have occurred.)

O.K. NOW, I AM GOING TO READ SOME MORE SENTENCES AND YOU WILL COLOR IN THE BOW UNDER THE HAPPY FACE IF YOU THINK THE SENTENCE IS RIGHT. YOU WILL COLOR IN THE BOW UNDER THE SAD FACE IF YOU THINK THE SENTENCE IS WRONG. REMEMBER, I WANT TO KNOW WHAT YOU THINK ABOUT THESE SENTENCES. I'LL FIND OUT WHAT YOUR NEIGHBOR THINKS ABOUT THESE SENTENCES BY LOOKING AT HIS BOWS. MAKE SURE YOU COLOR IN ONLY ONE BOW IN EACH ROW, BUT DON'T LEAVE A ROW UNLESS ONE BOW IS COLORED IN.

(turn page)

Item #1
flower

MOVE YOUR PLACE HOLDER UNDER THE NEXT ROW. THIS ROW HAS A PICTURE OF A FLOWER. THE PICTURES ON EACH ROW WILL HELP US STAY TOGETHER. DO YOU THINK THIS SENTENCE IS RIGHT OR WRONG? WHEN SOMETHING IS IN BALANCE, ITS PARTS ARE WORKING TOGETHER OR COOPERATING. (Repeat) COLOR IN THE BOW UNDER THE HAPPY FACE IF YOU THINK THAT SENTENCE IS RIGHT. COLOR IN THE BOW UNDER THE SAD FACE IF YOU THINK THE SENTENCE IS WRONG.

Item #2
football

SLIDE YOUR PLACE HOLDER DOWN TO THE FACES NEXT TO THE FOOTBALL. IS THIS SENTENCE RIGHT OR WRONG? BALANCE LEADS TO HEALTH AND HAPPINESS. (Repeat) IF YOU THINK THE SENTENCE IS RIGHT COLOR IN THE BOW UNDER THE HAPPY FACE. IF YOU THINK THE SENTENCE IS WRONG COLOR IN THE BOW UNDER THE SAD FACE.

Item #3
bone

THE NEXT ROW HAS A BONE. IS EVERYONE AT THE CORRECT PLACE? (Pause) FINE. NOW, DO YOU THINK THIS SENTENCE IS RIGHT OR WRONG? THE INTERNAL ENVIRONMENT IS MADE UP OF THE PEOPLE WHO LIVE IN YOUR HOME. I'LL REPEAT THE SENTENCE WHILE YOU DECIDE IF IT IS RIGHT OR WRONG AND COLOR IN THE BOW UNDER THE HAPPY FACE OR THE SAD FACE. THE INTERNAL ENVIRONMENT IS MADE UP OF THE PEOPLE WHO LIVE IN YOUR HOME.

Item #4
fish

MOVE YOUR PLACE HOLDER DOWN TO THE NEXT ROW. THIS IS THE BOTTOM ROW AND IT HAS A FISH. IS THIS SENTENCE RIGHT OR WRONG? THE CIRCULATORY SYSTEM EXPLAINS WHAT HAPPENS TO THE BLOOD. (Repeat)

Item #5
wagon

LET'S SLIDE THE PLACE HOLDER TO THE TOP OF THE PAGE UNTIL IT IS AT THE ROW WITH THE WAGON. IS THIS SENTENCE RIGHT OR WRONG? THE NERVOUS SYSTEM EXPLAINS WHAT HAPPENS TO THE AIR WE BREATHE. (Repeat)

Item #6
dog house

NOW, DOWN TO THE NEXT ROW – THE ROW WITH A DOG HOUSE. IS THIS SENTENCE RIGHT OR WRONG? THE RESPIRATORY SYSTEM EXPLAINS WHAT HAPPENS TO THE FOOD WE EAT. (Repeat)

Item #7
cat

NEXT IS THE ROW WITH A CAT. IS THIS SENTENCE RIGHT OR WRONG? THE DIGESTIVE SYSTEM EXPLAINS HOW MESSAGES GET FROM ONE PART OF THE BODY TO ANOTHER PART. (Repeat)

Item #8
flower

THE BOTTOM ROW HAS A PICTURE OF A FLOWER. IS THIS SENTENCE RIGHT OR WRONG? WHEN YOUR INTERNAL ENVIRONMENT IS IN BALANCE YOU FEEL GOOD. (Repeat)

Item #9
football

TURN THIS SHEET OVER. PUT YOUR PLACE HOLDER UNDER THE FIRST ROW. THIS ROW HAS A FOOTBALL. IS THIS SENTENCE RIGHT OR WRONG? THE BODY SYSTEMS DO NOT HAVE TO WORK TOGETHER IN ORDER FOR YOU TO FEEL GOOD. (Repeat)

Item #10
bone

SLIDE THE PLACE HOLDER DOWN TO THE NEXT ROW. THIS ROW HAS A BONE. IS THIS SENTENCE RIGHT OR WRONG? WHEN A SYSTEM IS OUT OF BALANCE, THE BODY TRIES TO PUT IT BACK IN BALANCE. (Repeat)

Item #11
fish

THE NEXT ROW HAS A PICTURE OF A FISH. IS THIS SENTENCE RIGHT OR WRONG? GOOD HEALTH HABITS HELP THE BODY TO STAY IN BALANCE. (Repeat)

Item #12
wagon

NOW MOVE THE PLACE HOLDER UNDER THE ROW WITH THE WAGON. IS THIS SENTENCE RIGHT OR WRONG? MEDICINES ARE USED TO HELP THE BODY TO STAY IN BALANCE. (Repeat)

Item #13
dog house

YOU CAN SEE A DOG HOUSE IN THE BOTTOM ROW. IS THIS SENTENCE RIGHT OR WRONG? INTERNAL OUT OF BALANCE MAY BE CAUSED BY HAVING AN ARGUMENT. (Repeat)

Item #14
cat

MOVE YOUR PLACE HOLDER TO THE TOP OF THE PAGE. THE FIRST ROW HAS A CAT. IS THIS SENTENCE RIGHT OR WRONG? A PERSON BEHAVES THE WAY THAT HE DOES BECAUSE HE WANTS TO FEEL GOOD. (Repeat)

Item #15
flower

SLIDE DOWN TO THE NEXT ROW. THIS ROW HAS A PICTURE OF A FLOWER. IS THIS SENTENCE RIGHT OR WRONG? ENVIRONMENTAL HELPERS ARE PEOPLE WHO CAN HELP TO KEEP THE INTERNAL ENVIRONMENT IN BALANCE. (Repeat)

Name _____

A World to Grow In
DAT Form 4

T F 1. Balance means working cooperatively for health and happiness.

T F 2. The four main groups of the social environment are the family, neighborhood, school, and sports teams.

T F 3. School roles are mother, father, sister, and cousin.

T F 4. Neighborhood roles are playmates and babysitters.

T F 5. Family roles are teacher, student and principal.

T F 6. Community roles are fireman, barber, and mailman.

T F 7. The family maintains balance by demonstrating love for one another.

T F 8. Social systems try to remain in balance.

T F 9. It is possible for a person to put a social system out of balance.

T F 10. It is very difficult for a person to put a social system out of balance.

T F 11. Having respect for other people and other people's property has nothing to do with the social environment.

T F 12. If something is bad for one person, it isn't always bad for the social environment.

T F 13. The reason why people do anything is because they hope that something good will happen.

T F 14. An environmental helper is someone who helps the environment stay in balance with society.

T F 15. A social environment helper is someone who helps people to stay in balance with each other.

T F 16. When you do something which makes you feel good, it usually makes you out of balance with the social environment.

A WORLD TO GROW IN

D A T Form 56

T F 1. Cells carry on the essential life processes such as digestion.

T F 2. When a person is unconscious he can feel things.

T F 3. A disease causes your health to be weakened or damaged.

T F 4. A drug is something that makes cells and tissues change the way they work.

T F 5. Cells speed up chemical changes in plants and animals.

T F 6. Mucus has very little to do with the process of ingestion and digestion.

T F 7. When a person is unconscious he can not feel things.

T F 8. An organism has no separate parts.

T F 9. Physiology is all of the life processes of a living organism.

T F 10. A psychological need is something an organism must do in order to remain alive and healthy.

T F 11. A prescription is a written order for the preparation and use of a drug.

T F 12. A process is a series of actions, motions, or operations leading to some result.

T F 13. A psychological need is related to a persons feelings for security, love, and wanting to count for something.

T F 14. A prescription is something which arouses to action or causes increased activity.

T F 15. Stimulants are drugs which cause the temporary loss of feeling and sensation.

T F 16. An analgesic affects only one part of the body.

T F 17. A local anesthetic causes unconsciousness.

T F 18. A stimulant affects the brain so that pain and discomfort are not felt.

T F 19. A psychological need may be satisfied in several different ways.

T F 20. To satisfy a psychological need, a person uses his own experiences and ideas.

T F 21. A person's attitudes and skills may cause him to use a bad method of satisfying a psychological need.

T F 22. A person's surroundings has little affect upon the method he uses to satisfy a psychological need.

Drug Knowledge Test

DIRECTIONS

The following pages contain 22 items about drugs. Even though you know nothing about drugs, circle the number of the answer which you think is best. For example:

Q. The capital of Ohio is:

(1) Columbus

2. Cleveland

3. Canton

4. Cincinnati

Answer each question. Do not leave any unanswered questions. If you have to guess, make the best guess that you can.

Drug Knowledge Test

1. Sniffing of glue and gasoline can make you:

   1. go into a deep sleep
   2. die
   3. have a fit
   4. all of the above
   5. none of the above

2. Which of the following statements is true? If you use marijuana (pot, grass) you will probably:

   1. want to have the feelings you get from using it
   2. feel that time is passing much slower or much faster than it really is
   3. keep company with persons who use other drugs
   4. all of the above
   5. only 1 and 2

3. Treatment of those who have used drugs for a long time:

   1. takes months or years and many times doesn't work
   2. takes months or years and usually works
   3. usually takes a few weeks and nearly always doesn't work
   4. usually takes a few weeks and nearly always works

4. Which of the following changes the way you see and hear things, especially their form and color?

   1. LSD (acid)
   2. benzedrine (bennies)
   3. heroin (horse, boy)
   4. only 1 and 2
   5. only 1 and 3

5. A person's body is said to depend on a drug when he

   1. sweats, has cramps, and gets sick to his stomach if he stops using it
   2. finds he needs the feelings he gets from using the drug
   3. needs more and more of the drug to get the same feeling
   4. feels all of the above
   5. feels only 1 and 3

6. Which may be called a drug ?

1. alcohol (beer, wine, whiskey)
2. tobacco (cigarettes, cigars)
3. LSD (acid)
4. all of the above

7. A drug which makes you need more and more of it to get the same feeling is:

1. STP (syndicate acid, DOM)
2. dexedrine (dexies)
3. marijuana (pot, grass)
4. cocaine (snow, girl)

8. The chief danger in using marijuana (pot, grass) is that:

1. you will sweat, have cramps, or get sick to your stomach if you stop using it
2. you will need more and more of it to get the same feeling
3. you will want to have the feelings you get from using it
4. it changes how your body works
5. all of the above

9. If a person uses barbiturates (downers, barbs) for a long time:

1. he will need to take more and more of them to get the same feeling
2. he will want to have the feelings he gets from using them
3. he will sweat, have cramps, or get sick to his stomach if he stops using them
4. all of the above
5. only 1 and 2

10. Which of the following is <u>not</u> true: If someone has used a drug for a long time and wants to stop, he should:

1. feel that he will be cured as soon as his body no longer has to have the drug
2. expect it to be a hard thing to do and to take a long time
3. feel that he is cured when he does not have to take the drug when things go wrong
4. 1 and 3
5. 2 and 3

11. Mescaline (button, tops) is most like:

1. alcohol (beer, wine, whiskey)
2. heroin (horse, boy)
3. benzedrine (bennies)
4. LSD (acid)
5. marijuana (pot, grass)

12. LSD (acid) makes you:

1. have an alert, awake feeling
2. go into a deep sleep
3. have drowsy and dull feelings
4. think things are changing their shape and color

13. A drug which makes you want to have the feeling of being excited but won't make you sweat, have cramps, or get sick to your stomach when you stop using it, is:

1. morphine (monkey, dreamer)
2. heroin (horse, boy)
3. cocaine (snow, girl)
4. both 1 and 2
5. both 2 and 3

14. Which is true of barbiturates (downers, barbs)?

1. they can be bought without a prescription
2. they make you feel awake and alert
3. you won't get cramps or sick if you stop taking them
4. they make you feel drowsy and dull
5. only 1 and 4

15. When marijuana (pot, grass) is used a lot:

1. it becomes a habit
2. you will need more and more of it to get the same feeling
3. you will want to have the feelings you get from using it
4. all of the above are true
5. only 2 and 3 are true

16. It's against the law for anyone, including doctors, to use:

1. LSD (acid)
2. heroin (horse, boy)
3. marijuana (pot, grass)
4. all of the above
5. only 1 and 2

17. Hashish (hash) is a drug that:

1. is like heroin (horse, boy) but stronger
2. makes you sleep for a long time
3. is like marijuana (pot, grass) but stronger
4. makes you feel alert and awake

18. Which of the following makes you feel dull and sleepy?

1. barbiturates (downers, barbs)
2. LSD (acid)
3. cocaine (snow, girl)
4. only 1 and 2
5. only 1 and 3

19. A person who depends on drugs to get the feelings he wants will usually find that:

1. he can do many of the things he wants to do only by using the drug
2. he has a hard time doing the things he wants to live for
3. he will have bad feelings which can be gotten rid of only by using the drug
4. all of the above are true
5. none of the above is true

20. A person who has been regularly using which of the following would get sick if he stopped using it:

1. marijuana (pot, grass)
2. heroin (horse, boy)
3. LSD (acid)
4. only 1 and 2
5. only 2 and 3

21. Benzedrine (bennies) and dexedrine (dexies) make you:

1. feel drowsy and dull
2. go into a deep sleep
3. feel alert and awake
4. both 1 and 2

22. Drugs do things to a person probably because:

1. of how much he takes
2. of what kind of person he is
3. of how his body works
4. of all of the above
5. of only 1 and 3

CT/pm
December 1970

Knowledge of Social Causality

DIRECTIONS

The following pages contain several questions which you are to answer by circling the number of what you feel is the best answer. For example:

Q. The capital of Ohio is:

(1) Columbus

2. Cleveland

3. Canton

4. Cincinnati

Answer <u>each</u> question. Do <u>not</u> leave any unanswered questions. If you have to guess, make the <u>best guess</u> that you can.

KNOWLEDGE OF SOCIAL CAUSALITY

1. Three-year-old Johnny has been told repeatedly that he is not to play with the electric iron, but he always does. One day he plays with it and drops it. The iron breaks.

    1. I would punish him to teach him a lesson.

    2. I would speak to him firmly.

    3. I'd like to know more about what happened.

    I'd ask him why he did it and then punish him.

2. Some children have more accidents in school and on the playground than other children in the same class. Suppose a study were made of those in a sixth grade class who have many accidents and those who have few or almost none. What do you think such studies would show?

    1. About four out of five who have accidents are below the class average in intelligence.

    2. Those who have accidents usually have bigger feet and hands than those who do not.

    3. Those who have accidents usually do not know the safety rules.

    4. Those who have accidents are usually treated differently at home than those who do not.

3. John is four years old. He doesn't want to go to bed at his regular bedtime hour, which is seven-thirty, even though he has been reminded. There are two older children in the family. Their bedtime is later. When John is put to bed he usually calls for a drink. Often he cries before he goes to sleep. When we study such children we find:

    1. They do not play long enough, so they aren't sleepy.

    2. If the child is reminded each evening that his bedtime is seven-thirty, after a while he will go to bed without being reminded.

    3. How their fathers played with them during the day has to be looked into if we want to understand their actions.

    If their mothers would give them a drink, that would show the children that they are cared for and since a child wants to feel he belongs, this would take care of the problem.

Knowledge of Social Causality

DIRECTIONS

The following pages contain several questions which you are to answer by circling the number of what you feel is the best answer. For example:

Q. The capital of Ohio is:

(1) Columbus

2. Cleveland

3. Canton

4. Cincinnati

Answer <u>each</u> question. Do <u>not</u> leave any unanswered questions. If you have to guess, make the <u>best guess</u> that you can.

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    3. How their fathers played with them during the day has to be looked into if we want to understand their actions.

    4. If their mothers would give them a drink, that would show the children that they are cared for and since a child wants to feel he belongs, this would take care of the problem.

4. Bob has recently entered the fifth grade in a small town. He came from a city school. The boys and girls in fifth grade do not like him very well. He talks very loudly. He wants to be the leader in almost every game. If the teacher is not in sight, he often teases the girls and some of the smaller boys.

    1. His parents ought to move back to the city.

    2. I would find out if he is being picked on by an older brother or sister and if so, I would change that and be quite sure that would take care of the whole thing.

    3. It wouldn't make much difference what method the teacher used to make him stop, as long as he stopped bothering others.

    4. You can't really say why Bob is doing these things.

5. One day a fifth grade class was talking about how it happens that some pupils have more accidents in school and on the playground than others. Some said that how a person is treated at home has something to do with this. Others said it didn't. What do you think?

    1. How a pupil is treated at home is known to be the most important reason about how he feels toward school.

    2. How a pupil is treated at home may have something to do with accidents at home but not at school.

    3. How a pupil is treated at home has very little to do with why accidents happen in school.

    4. How a pupil is treated at home has more to do with accidents at school than if he knows safety rules.

6. Ralph's father has told him that he must not play with the boy next door. But when his father is not home, Ralph disobeys him and plays with this boy. One day his father came home early and caught him playing with the boy.

    1. There may be many reasons why Ralph disobeyed his father.

    2. If some other boy disobeyed his father, the boy's reasons would be the same as Ralph's.

    3. Both Ralph and the boy next door should be punished.

    4. Ralph's father doesn't understand him.

7. Alice often took toys away from Jerry, her little brother. No matter what toy Jerry was playing with, Alice would take it for herself. Then Jerry would usually cry and their mother would make Alice give the toy back to Jerry.

    1. There could be many things which made Alice act this way.

    2. It is easy to see that Alice's mother likes Jerry more.

    3. It would be wise if Alice's mother punished her to teach her a lesson instead of listening to Alice's excuses.

    4. Alice and Jerry should be kept apart.

8. Henry's mother is disturbed. She has found that Henry has taken a dollar which she had left in the cupboard. Henry is ten years old. He has a small allowance which he may spend as he pleases.

    1. Something made Henry steal.

    2. Henry can't be trusted with money.

    3. Since Henry has an allowance, there is no reason for him to steal money.

    4. Instead of looking for reasons why Henry stole, he should just be punished.

9. Bill is always picking on smaller kids on the way home from school. Some of them ask Bill's teacher to do something about it.

    1. Bill is most likely just a bully.

    2. Bigger kids usually pick on smaller kids.

    3. The teacher will probably tell Bill to stop but that won't do much good.

    4. Maybe some of the smaller kids have been doing something to make Bill mad at them.

10. There is a gang of six boys in the junior high school in Sunnyside. These boys usually go around together. They are often in trouble. Once it was for tearing down a yard fence. Another time they broke all the basement windows in one of the store buildings. Recently they entered a vacant house. They broke the light bulbs and tore down the window shades. What things do you think are important in explaining the behavior of these boys?

    1. Since these boys do the same things, they are probably alike in most ways.

    2. There is no excuse for the behavior of these boys and they should be made to repair the damage.

    3. A person would have to find out a lot about these boys to know why they do such things.

    4. These boys are breaking things because they are mean.

11. Ruth is four years old. She is put to bed every night at seven-thirty. There are two older children in the family. Their bedtime is later. Ruth has a nap each afternoon. She sleeps an hour or more then. As soon as she is in bed, she begins to call. First she wants a drink. A few minutes after the drink she needs a handkerchief or something else.

    1. A good talking to might not make Ruth stop, but it would be good for her anyway.

    2. I would give her a handkerchief and that would take care of the problem.

    3. There must be a reason why Ruth acts this way.

    4. Ruth is just afraid to be alone and that's all there is to it.

Continued on next page

12. George is ten years old. He and his father are very good friends. George helps with many jobs around the house when his father is home. In the last several months George doesn't want to eat green beans and tomatoes even when he is hungry. His father doesn't like green beans and tomatoes and frequently talks about his dislike. When we study such children, we find that:

    1. If George's mother said that beans and tomatoes were good for him, that wouldn't make much difference since George can't learn to eat these vegetables.

    2. What George's teacher said about eating beans and tomatoes could have something to do with helping him learn, even though he eats his meals at home.

    3. Children who have this problem and who live in the same part of the country as George, show about the same reason as George for not liking these vegetables.

    4. Since George's father doesn't like beans and tomatoes, it is quite probable that George was born with this dislike.

CT/pm
December 1970

WHAT DO YOU THINK?

Attitude Questionnaire

Much has been said about what young people do and how they feel about the things that they do. However, very little is really known about this. This questionnaire gives you a chance to express your feelings about certain behaviors. These behaviors may have some risk or danger. They may also give some satisfaction or reward in the form of pleasure or thrills.

If you will give your honest opeinions and feelings about these behaviors, you will help us to understand the real attitudes of today's young people. You can be sure that your answers will be kept confidential and that no one will ever be able to use them against you.

Since there are no clearly "right" or "wrong" answers, you should not spend too much time on any one question. Just give your first thought and move on quickly to the next question. Please read and answer each question.

The questionnaire consists of a word or phrase at the top of each page followed by several adjective pairs, separated by a line. You are to show how you feel by placing an X somewhere on the line. For example, if the page looks like this:

BICYCLE RIDING

EASY ___ : ___ : ___ : ___ : X ___ DIFFICULT

SMOOTH ___ : ___ X : ___ : ___ : ___ ROUGH

First you would decide how you feel about bicycle riding in terms of easy to difficult. If you think bicycle riding is extremely difficult, you would place an X ver close to the word DIFFICULT, as in the example. Next, you would decide how you feel about bicycle riding with regard to smooth or rough. If you think bicycle riding is smooth, but not too smooth, you might place an X as in the example.

There is only one thing you should not do. You should not place an X on the dots. If you feel that you must place the X on the dots, just make a decision about which side of the dots comes closest to your feeling.

LSD

SAFE	:	:	:	:	:	DANGEROUS
DISHONORABLE	:	:	:	:	:	HONORABLE
WARM	:	:	:	:	:	COLD
VALUABLE	:	:	:	:	:	WORTHLESS
INFERIOR	:	:	:	:	:	SUPERIOR
PLEASANT	:	:	:	:	:	UNPLEASANT
DULL	:	:	:	:	:	EXCITING
FAILURE	:	:	:	:	:	SUCCESS
WISE	:	:	:	:	:	FOOLISH

HEROIN

SAFE	:	:	:	:	DANGEROUS
DISHONORABLE	:	:	:	:	HONORABLE
WARM	:	:	:	:	COLD
VALUABLE	:	:	:	:	WORTHLESS
INFERIOR	:	:	:	:	SUPERIOR
PLEASANT	:	:	:	:	UNPLEASANT
DULL	:	:	:	:	EXCITING
FAILURE	:	:	:	:	SUCCESS
WISE	:	:	:	:	FOOLISH

PILLS

SAFE	: : : :	DANGEROUS
DISHONORABLE	: : : :	HONORABLE
WARM	: : : :	COLD
VALUABLE	: : : :	WORTHLESS
INFERIOR	: : : :	SUPERIOR
PLEASANT	: : : :	UNPLEASANT
DULL	: : : :	EXCITING
FAILURE	: : : :	SUCCESS
WISE	: : : :	FOOLISH

MARIJUANA

SAFE	:	:	:	:	DANGEROUS
DISHONORABLE	:	:	:	:	HONORABLE
WARM	:	:	:	:	COLD
VALUABLE	:	:	:	:	WORTHLESS
INFERIOR	:	:	:	:	SUPERIOR
PLEASANT	:	:	:	:	UNPLEASANT
DULL	:	:	:	:	EXCITING
FAILURE	:	:	:	:	SUCCESS
WISE	:	:	:	:	FOOLISH

BEER, WINE, OR WHISKEY

SAFE	: : : :	DANGEROUS
DISHONORABLE	: : : :	HONORABLE
WARM	: : : :	COLD
VALUABLE	: : : :	WORTHLESS
INFERIOR	: : : :	SUPERIOR
PLEASANT	: : : :	UNPLEASANT
DULL	: : : :	EXCITING
FAILURE	: : : :	SUCCESS
WISE	: : : :	FOOLISH

CIGARETTES

SAFE	:	:	:	:	DANGEROUS
DISHONORABLE	:	:	:	:	HONORABLE
WARM	:	:	:	:	COLD
VALUABLE	:	:	:	:	WORTHLESS
INFERIOR	:	:	:	:	SUPERIOR
PLEASANT	:	:	:	:	UNPLEASANT
DULL	:	:	:	:	EXCITING
FAILURE	:	:	:	:	SUCCESS
WISE	:	:	:	:	FOOLISH

Behavior Knowledge

Senior High (rev.)

---

1. Jim is not a popular member of the band because of the boasting he does about how well he can play his horn. One day during practice he made several mistakes. Which statement below best indicates a way of thinking which will be the most helpful:

   1. The band members should point out to Jim that he is not perfect either
   2. The band members should try to understand why Jim behaves the way he does before they react
   3. The band members should not concern themselves with Jim's boasting or his mistakes
   4. Every time Jim makes a mistake they should point it out to him

2. Frank avoids games like football. He is afraid of the friendly but rough dog next door and prefers a light in his bedroom at night. Which of the following needs is probably the motivating force behind Frank's behavior:

   1. Frank is most concerned about belonging to his group
   2. Frank may not feel that his surroundings will offer protection to him
   3. Frank wants to look good in the eyes of his friends
   4. Frank is probably very good at taking care of himself and it comes naturally to behave this way

3. The person who has to win at every game regardless of the feelings of others more than likely will:

   1. Eventually have problems in getting along with others
   2. Become very popular and well liked
   3. Probably feel good each time he wins
   4. Both 1 and 3
   5. Have very few personal problems

4. Many young men have well developed athletic skills which help them gain recognition and approval from their classmates. Suppose these young men found summer jobs at various places such as lumber camps and the like. Which of the following is most accurate:

   1. Their need for recognition would no longer be strong and they would forget about their athletic skills

   2. Their need for recognition would no longer be strong but they would continue to engage in sports much the same as they did while in school

   3. Their need for recognition would remain strong and they would immediately set about learning new ways of gaining it

   4. Their need for recognition would remain strong and they would try to use their athletic skills according to the opportunity available

   5. Each young man would behave according to the laws of chance

5. Betty just moved to town. At her former school she was a good student and popular with her classmates. At her new school she is having difficulty. She wants to be accepted but is not. Which is the most helpful first step that Betty could take:

   1. Do the same things she did at the former school only try harder
   2. Develop n new skill
   3. Gather information to see why she is not so popular
   4. Admit that this often happens in life and live with it
   5. Find out who the most popular girl is and try to make friends with her

6. Lately Ann has been watching TV instead of doing her homework. Which of the following statements is most accurate:

   1. Ann can safely ignore the consequences of her behavior
   2. If Ann's teachers and parents are not angry, then everything will turn out OK
   3. Ann will eventually feel the effects of not doing her homework even if her parents and teachers do not punish her now
   4. If Ann does her homework she is certain to achieve her goals in life
   5. Both 1 and 2

7. While in elementary school Jerry seemed to enjoy the special recognition he received for his handwriting, samples of which have been put on display. When he was in the fourth grade an injury to his hand prevented him from writing as well. Which statement is the most correct:

   1. Because of his handicap Jerry's need for recognition will be reduced
   2. Jerry's need for recognition will remain, but because of his injury he cannot expect that he will be able to satisfy it
   3. Jerry's need for recognition will remain as strong or stronger and he can learn other ways of satisfying it
   4. Jerry's writing had little to do with gaining a feeling of recognition. Other people either like you or they don't

8. Bill usually gets C's or B's for grades. He has learned that he has to spend a certain amount of time studying in order to do this. Fred gets B's and C's too and he hardly studies at all.

   1. The chances are that Fred, because he is smarter, will be more successful than Bill
   2. Bill in the future will probably do better than Fred because he is trying harder
   3. Bill and Fred have about the same chances of succeeding
   4. Fred is developing a habit that could have a very bad effect upon his future
   5. Fred is lucky that he can put aside thoughts about the future

9. Bill found out that Jim, a friend of his, took some LSD. Which of the following statements Bill could make reveal an approach to Jim's behavior which may help Bill be most effective in dealing with Jim's drug behavior:

   1. Jim's taking drugs is one of those behaviors which just happens; there is no reason for it
   2. Jim takes drugs for the same reason that others take drugs
   3. There are many possible reasons for Jim's taking drugs and knowing Jim better may give clues as to why
   4. Bill can-if he has some knowledge of causes-be certain why Jim takes drugs

10. Jerry rarely works on his own. Since childhood he has depended on others to help him do his work. Which statement is more accurate:

    1. Jerry is not learning a helpful method of satisfying his needs, but this will not affect the chances of his taking drugs
    2. Jerry is not learning a helpful method of satisfying his needs He is more likely to use drugs than someone who has learned to solve his own problems
    3. Jerry's method of satisfying needs is a good one which will help him to avoid using drugs in the future
    4. Jerry's method is a good one, since everyone needs to learn to work with others

11. Which of the following might have helped Judith get her father's love and avoid the "drug solution" to her problems:

    1. Ask him to buy her expensive clothes and presents
    2. Ask him to help her even when she could do things herself
    3. Try in many ways to understand her father's problems and help him to see hers
    4. Tell him how wrong it is of him to neglect her

12. Which of the following best describes the order in which the needs listed tend to come to the awareness of the individual:

    1. Love needs; physical needs (hunger, etc.); self-respect need; physical safety needs
    2. Physical needs (hunger, etc.); self-respect needs; love needs; physical safety needs
    3. Love needs; physical safety needs; physical needs (hunger, etc.); self-respect needs
    4. Physical needs (hunger, etc.); physical safety needs; love needs; self-respect needs
    5. Physical safety needs; physical needs (hunger, etc.); self-respect needs; love needs

13. Terry got to bed very late last night. His friends have asked him to go to the show tonight. Which of the following best explains the decision he might make between the two possible courses of behavior -- the show or home to bed?

1. An individual tends to do what he has done most frequently in the past
2. A person usually chooses that which gives him the most immediate satisfaction
3. A person's selection usually depends upon the relative strength of the motives involved
4. An individual's behavior is predetermined and one really has no choice in the matter
5. A person's decisions are usually based on chance or coincidence

14. Which of the following attitudes toward the self <u>most</u> tends to lead toward maximum growth:

1. A strong conviction of one's ability to do most things right
2. Faith in one's ability to reach important goals
3. Projection upon others of the blames for one's failures
4. A strong realization of one's weaknesses and limitations
5. A tendency to explain away one's failures

15. For maximum self realization of the individual, a given developmental task (such as learning to walk, learning one's sex role, development of independence from parents) should be mastered:

1. As early as possible
2. Before the individual graduates from school
3. Any time before maturity is attained by the individual
4. At the time the school group expects its mastery
5. Any time that is convenient

16. The <u>primary</u> reason punishment for unacceptable behavior is of limited value by itself is:

1. It does not change the behavior
2. It tends to destroy a person's self-confidence
3. It does not eliminate the need which caused the behavior
4. It does not teach the individual what he should do

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17. ... as gasoline and benzene

18. A drug ... and psychological dependence and ... is:

1. marijuana
2. heroin
3. D. M. T.
4. L. S. D.
5. none of the above

19. ... person sees things, usually ...

BEST COPY AVAILABLE

21. Treatment of those who have a well established drug dependence:

1. takes several months or years but is generally successful
2. is usually accomplished in a few weeks and is nearly always successful
3. has been discontinued because it is proved unsuccessful
4. takes months or years and is frequently unsuccessful

22. Which of the following is <u>not</u> true:

1. treatment of drug dependence often requires the help of persons in medical, social, and psychological professions
2. treatment of drug dependence requires considerable time, effort, and cooperation of the drug dependent person
3. treatment of drug dependence is successful when physical dependence has been eliminated
4. treatment of drug dependence is successful when the individual is capable of solving his problems without need for drugs

23. Which of the following statements is true of marihuana:

1. its use can lead to psychological dependence
2. its use can lead to associations with persons who use more dangerous drugs
3. its use can produce effects which reduce the ability to judge distance or the passage of time accurately
4. all of the above
5. none of the above

24. A drug which produces a state of excitement and a high degree of psychological dependence is:

1. heroin
2. cocaine
3. morphine
4. volatile chemicals

25. The effects of a drug on a person are the result of:

1. previous experience with drugs
2. the amount of drug taken
3. the person's unique personality
4. the physical condition of the person
5. all the above

26. The prolonged use of barbiturates may lead to:

1. needing more of the drug to get the same effect
2. psychological dependence upon the drug
3. physical dependence upon the drug
4. 1 and 2
5. all the above

27. The chief danger in using marijuana is the possibility of:

1. becoming physically dependent upon the drug
2. development of tolerance, needing more of the drug to get the same effect
3. changes in the body caused by use of the drug
4. overdependence upon the drug to help face personal problems

28. Which is true of barbiturates:

1. they speed up body functions
2. they slow down body functions
3. are physically addicting
4. both 1 and 3
5. both 2 and 3

29. Which of the following is not a psychoactive agent:

1. heroin
2. marijuana
3. tobacco
4. alcohol
5. all of the above are psychoactive agents

30. Hashish is a/an:

1. narcotic
2. amphetamine
3. concentrated form of marijuana's active ingredient
4. physically addicting drug

31. The effects of mescaline is most like the effects of:

1. heroin
2. marijuana
3. benzedrine
4. LSD
5. alcohol

32. Prolonged heavy use of which of the following has been proven to have the most damaging effects upon the body organs:

1. heroin
2. LSD
3. alcohol
4. marijuana
5. opium

Developmental Attitude Scale

INSTRUCTIONS

We are working to improve the drug education studies in your schools. You can help us by reading each of the following statements then marking one of the codes in front of each statement.

The codes are as follows:

1	SA	=	Strongly Agree
2	A	=	Agree
3	N	=	Neutral or Indifferent
4	D	=	Disagree
5	SD	=	Strongly Disagree

For example, the person who read the following statement agreed with it but not as strongly as is possible:

1	2	3	4	5	
SA	(A)	N	D	SD.	Walking is a good way to exercise.

Here is the code again:

1	2	3	4	5
SA	A	N	D	SD
Strongly	Agree	Neutral or Indifferent	Disagree	Strongly Disagree

The answers you give will be kept confidential. Please answer truthfully for only then will we be able to improve our program.

If IBM scoring sheets are used in the administration of this scale, mark the number corresponding to the choice you make in the appropriate space. Please use number 2 soft lead pencils in marking your response. Do not use a marking, ball point, or fountain pen to mark your response.

2	3	4	5		
A	N	D	SD	151.	Marijuana can help a person get more out of life.
A	N	D	SD	152.	Planning for tomorrow spoils today.
A	N	D	SD	153.	Even though a drug may give a person a kick, if it damages my body or mind, I would not use it.
A	N	D	SD	154.	All drugs should be destroyed and burned.
A	N	D	SD	155.	We should think of both the future and present.
A	N	D	SD	156.	I don't want anyone around me who takes drugs, because everyone who takes them is trash.
A	N	D	SD	157.	Tomorrow usually takes care of itself.
A	N	D	SD	158.	Drugs used by doctors and other scientists may be helpful to mankind.
A	N	D	SD	159.	When I have a problem, I talk to my parents about it.
A	N	D	SD	160.	Nothing I do seems to help solve my problems.
A	N	D	SD	161.	I believe that talking with an interested adult can help me solve some of my more difficult problems.
A	N	D	SD	162.	Life is full of interesting and exciting experiences.
A	N	D	SD	163.	LSD can ruin a person's life.
A	N	D	SD	164.	Life is mostly a bore.
A	N	D	SD	165.	I would not use a drug if research shows that it is harmful to the body.
A	N	D	SD	166.	Glue sniffing is not likely to harm the body.
A	N	D	SD	167.	Legal drugs, such as aspirin, Nytol, cough syrup, and No-Doz cannot possibly be abused.
A	N	D	SD	168.	Life is good or bad, depending upon what I make of it.
A	N	D	SD	169.	If someone is taking drugs, you should look the other way.
2	3	4	5		

1	2	3	4	5		
SA	A	N	D	SD	170.	It is cool to "cop out."
SA	A	N	D	SD	171.	I don't care what other people do as long as it is not to me.
SA	A	N	D	SD	172.	When deciding whether to use drugs or not, all a person needs to know is whether it is legal to use the drug.
SA	A	N	D	SD	173.	If people want to destroy their body by taking drugs, they can; I don't care.
SA	A	N	D	SD	174.	Users of drugs such as heroin are beyond help.
SA	A	N	D	SD	175.	You should think only about the present because you don't know about the future.
SA	A	N	D	SD	176.	To stop people from taking drugs all we have to do is pass more laws.
SA	A	N	D	SD	177.	If you don't like things the way they are you should work to change them.
SA	A	N	D	SD	178.	I plan on continuing in school until I graduate.
SA	A	N	D	SD	179.	People who take drugs should be punished or locked up.
SA	A	N	D	SD	180.	It would have been better if I had never been born.
SA	A	N	D	SD	181.	LSD can help a person get more out of life.
SA	A	N	D	SD	182.	If people don't care about themselves they should talk to an older person.
SA	A	N	D	SD	183.	No one can expect life to be exciting and interesting all of the time.
SA	A	N	D	SD	184.	The world we live in is a pretty lonesome place.
SA	A	N	D	SD	185.	Research on drugs is important if we are to gain useful drug information.
SA	A	N	D	SD	186.	It is possible to learn why a person uses drugs.
SA	A	N	D	SD	187.	I have not thought much about my goals in life.
SA	A	N	D	SD	188.	What my parents think about drugs is important to what I think about drugs.
1	2	3	4	5		

A	A	N	D	SD	189.	My classroom learning experiences are definitely going to help me reach my personal goals in life.
A	A	N	D	SD	190.	Glue sniffing is O. K.
A	A	N	D	SD	191.	Over use of some of the legal drugs--aspirin, No-Doz, cough syrup--can be very dangerous.
A	A	N	D	SD	192.	If you are having a problem, it helps to find out what is causing it.
A	A	N	D	SD	193.	Life should be lived day by day, without looking ahead a year or so.
A	A	N	D	SD	194.	I can see why some people take drugs.
A	A	N	D	SD	195.	I am not at all pleased with my goals in life.
	2	3	4	5		

PRESENTATION SITE	PARTICIPANTS	DATES
Columbus, Ohio	Administrators, Counselors, and Teachers.	August 26-28, 1970
Newark, Ohio	Administrators, Counselors, and Teachers.	August 30, 1970
WLW-D Television Dayton, Ohio	Students, Parents, and Television Audience.	September 4, 1970
Dayton, Ohio	Counselors, Visiting Teachers, and Nurses.	September 29, 1970
Stivers High School Dayton, Ohio	Teachers and Counselors.	October 20, 1970
Tipp City, Ohio	Parents and Teachers.	October 27, 1970
Lima, Ohio	Administrators, Counselors, and Teachers.	October 28, 1970
Antwerp, Ohio	Administrators, Counselors, and Teachers.	November 11, 1970
Bowling Green, Ohio	Administrators, Counselors, and Teachers.	November 15, 1970
Dayton, Ohio	Administrators, Counselors, and Teachers.	November 24, 1970
Cincinnati, Ohio	Administrators, Counselors, and Teachers.	December 2, 1970
Columbus, Ohio	State Advisory Council	January 7, 1971
Meadowdale High School Dayton, Ohio	Teachers and Counselors.	January 11, 1971
Orville Wright Elem. Dayton, Ohio	Teachers and Counselors.	January 12, 1971
Mahoning County Schools	Administrators, Counselors, and Teachers.	January 19, 1971
Belle Haven Elem. Dayton, Ohio	Parents and Teachers.	February 1, 1971
Covington, Ohio	Parents, Teachers, and Administrators.	February 10, 1971
Preble County Schools	Administrators and Members of Boards of Education.	February 16, 1971

PRESENTATION SITE	PARTICIPANTS	DATES
Port Clinton, Ohio	Administrators, Counselors, and Teachers.	February 22, 1971
Troy, Ohio	Administrators, Counselors, and Teachers.	February 23, 1971
Germantown, Ohio	Administrators, Counselors, and Teachers.	February 26, 1971
Toledo, Ohio	Administrators, Counselors, and Teachers.	March 1, 1971
Columbus, Ohio	OEA Curriculum Meeting	March 5, 1971
Toledo, Ohio	Administrators, Counselors, and Teachers.	March 5, 1971
Columbus, Ohio	Administrators, Counselors, and Teachers.	March 9-11, 1971
Hubbard, Ohio	Administrators, Counselors, and Teachers.	March 19, 1971
West Carrollton, Ohio	Rotary Luncheon	March 23, 1971
Dayton, Ohio	Altrusa Club	March 23, 1971
Cincinnati, Ohio	Title III Hearing	March 30, 1971
Fairbanks Local School	Teachers and Administrators.	April 1, 1971
Cincinnati, Ohio	University of Cincinnati	April 8, 1971
Steubenville, Ohio	Administrators, Counselors, and Teachers.	April 19, 1971
Meadowdale High Dayton, Ohio	Students	May 11-14, 1971